GOVERNMENT SENATORS' REPORT

BY SENATORS TIERNEY, PAYNE AND EGGLESTON

Introduction

Government Members of the Committee reject the findings of the majority report. They believe that the Jabiluka uranium mine has been subject to the most rigorous level of assessment over a very considerable period, and that at every stage it has been demonstrated that the mine will have no adverse impact on the environment of Kakadu National Park and on its World Heritage values.

The Government has provided a comprehensive analysis of the relevant issues in its response to the World Heritage Committee, *Australia's Kakadu: Protecting World Heritage*,[1] and in the Supervising Scientist's report to the World Heritage Committee.[2] Excerpts from key sections of those reports are provided as appendices to this report.

Government Members of the Committee saw no need for the inquiry, given the exhaustive nature of previous assessments of the Jabiluka project. They share the view of the Minister for the Environment that the current debate in relation to the project is occurring in 'very difficult circumstances … highly unusual circumstances. You do not usually have the Opposition working with non-government organisations to lobby international bodies to find against Australia.'[3]

The inquiry has demonstrated, however, that the Government's position is widely supported in the general community and also within the scientific community. In the course of this inquiry the Committee was provided with evidence from a range of organisations and individuals who fully supported the views expressed by the Minister in relation to the Jabiluka project.

The conclusion reached by Government Senators on the Committee is that the Jabiluka project poses no threat to the environment or to the World Heritage values of Kakadu National Park, and that all appropriate processes, in relation both to environmental assessment and to consultation with Traditional Aboriginal Owners and their representatives have been strictly adhered to.

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1 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, Response by the Australian Government to the World Heritage Committee Regarding Kakadu National Park, April 1999: http://www.biodiversity.environment.gov.au/kakadu/jabiluka/response_aust.html

2 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999: http://www.biodiversity.environment.gov.au/kakadu/jabiluka/scientist.html

3 Senator the Hon Robert Hill, Senate Environment, Communications, Information Technology and the Arts Legislation Committee, Consideration of Additional Estimates, 5 May 1999, *Proof Committee Hansard*, p 313.

The Approvals Process

> It is my belief that it is the most watched and studied mine that I have ever seen, and I have seen a few.[4]

There is no doubt that Energy Resources of Australia (ERA) has followed established processes for the assessment and approval of major projects under Commonwealth and Northern Territory legislation and regulations. The legal processes used for the approval of the Jabiluka mine project were under constant scrutiny by both governments. The approval of the project followed extensive review and investigation over a period of more than two and a half years, based on information gathered from the region over a period of thirty years. All attempts to challenge the process and approvals through legal means have failed.

Despite the existence of a full Environmental Impact Statement (EIS) under the *Environment Protection (Impact of Proposals) Act 1974* for Pancontinental's earlier Jabiluka proposal, and the fact that ERA's option significantly reduced the physical and visual impact of the mine compared with the Pancontinental proposal, the Minister for the Environment directed that a full EIS be undertaken to ensure the application of current knowledge and best practice to ERA's 1996 proposal. Mr Roger Beale, Secretary of the Department of the Environment and Heritage, told the Committee that: 'We believe that assessment to have been equivalent to the best practice in the world.'[5]

As a result of the assessment the Minister for the Environment advised the Minister for Resources and Energy in August 1997 that the project was environmentally acceptable subject to 77 conditions being met. The Minister for Resources and Energy accepted that advice and applied a range of conditions that would need to be met before an export permit would be issued to the company.

Because the Traditional Owners indicated that they would not consent to the milling of Jabiluka ore at Ranger, ERA sought approval for the Jabiluka Mill Alternative. Taking into account previous assessments, the Minister directed that a Public Environment Report (PER) be prepared. Given that a comprehensive EIS had been carried out for the Ranger Mill Alternative, which covered all aspects of the mine, a PER was an adequate assessment for the more restricted issue of the mill being sited at Jabiluka.

Following the completion of the PER, and advice from his department concerning remaining scientific uncertainties associated with the company's proposal for the storage of tailings on the surface, and in order to ensure the very highest standard of assessment, the Minister sought further technical advice from Professors Waite,

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4 Professor Ben Selinger, *Proof Committee Hansard*, Canberra, 11 June 1999, p 69 (speaking about the Ranger uranium mine).

5 Mr Roger Beale, Department of the Environment and Heritage, *Proof Committee Hansard*, Canberra, 11 June 1999, p 35.

Dudgeon and Fell at Unisearch, a research arm of the University of New South Wales, in relation to hydro-geological and chemical issues associated with the surface storage of tailings. That advice confirmed that there were uncertainties associated with the proposed method of storage.

The PER and the advice from the University of NSW scientists led to the Minister's advice to the Minister for Resources and Energy of 25 August 1998 that a further 17 conditions, including the disposal of 100 per cent of tailings underground, would need to be imposed on the proponent.

Any argument that the assessment and approval process has been anything but rigorous and objective, or that the Minister has not exercised his responsibilities in an energetic and independent way, simply cannot be sustained. Advice to the Minister from the Supervising Scientist, and the Minister's decision to require further clarification of issues not fully explored in the PER, clearly indicate that the Government's approach to the assessment process has been genuine and credible.

The Minister required that before the final project could proceed and a mill be constructed there had to be a further, detailed report on the relevant issues. The Minister has recorded publicly that the Supervising Scientist's recommendation:

> was that the decision [to approve the project] should be deferred until further information was obtained. We exercised caution at that stage and we specifically referred to the issue of tailings, and [said] that further information would be needed before the approval was given. The caution that we exercised in our recommendations to the Minister was reflected in the Minister's decision. [6]

Significantly, when the Senior Traditional Owner sought a review under the *Administrative Decisions (Judicial Review) Act 1997* of the Environment Minister's decisions in relation to the PER and the Unisearch advice, the Federal Court found on 1 June 1999 against the plaintiffs and ordered costs in favour of the Minister.

Clearly, no pre-operational assessment can provide a definitive answer to all the questions associated with a project. As the Northern Territory Government stated:

> The major difficulty and deficiency of the pre-mining environmental impact assessment process is that it attempts to predict future impacts from limited data … It is always possible to say that more needs to be done or known and that measurements need to be improved.[7]

Equally clearly, any fresh assessment of a proposal may reveal areas where further improvement is possible, particularly when a closer scrutiny of specific matters is undertaken. At each stage of the Jabiluka process the Government has taken the

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6 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 4.

7 Northern Territory Government, Submission 49, p 5.

necessary steps to ensure that even more stringent conditions are met by the proponent, with the result that the mine is subject to an unparalleled level of environmental safeguards and oversight.

It might be claimed that still more needs to be known; such a claim can always be made. However, the unparalleled degree of scrutiny associated with the Jabiluka project has meant that the assessment has extended to matters of technical detail not usually examined until the detailed design stage of a project. This has meant that there is a greater degree of certainty in relation to many issues than is usually the case prior to development.

Additionally, because of the Supervising Scientist's twenty year study of the Ranger mine and its impact on the environment, there is a great volume of technical data on a wide range of issues relevant to the mining of uranium in the region, which is not usually available for the development of new projects. This data, and the experience at Ranger, means that there is a great deal more certainty and predictability in relation to issues associated with Jabiluka than is usually the case for the assessment of new projects.[8]

Among the conclusions of the *Report of the Supervising Scientist to the World Heritage Committee* was the statement that:

> the environmental protection regime that the Australian Government implemented for the mining of uranium at Ranger has been completely consistent with the principles of Sustainable Development and it has been demonstrated, through an extensive chemical, biological and radiological monitoring program, that no impact of significance under those principles has occurred, on either people or ecosystems of Kakadu National Park, throughout the operation of the Ranger mine.
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> The same regulatory regime, but strengthened in some particular cases, would apply to the mining of uranium at Jabiluka.[9]

Significantly, *all* of the predictions made by the Ranger Uranium Environmental Inquiry in 1977 overstated the likely impact of the mine, and in every case the environmental impact has been less severe than what was predicted by that inquiry.[10]

In the case of Jabiluka, the Supervising Scientist told the Committee that:

> while in some cases there were issues of detail that would need to be pursued by the Supervising Scientist and the NT regulatory authorities at the detailed design stage, there was adequate evidence that an appropriate final

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8 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 9.

9 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 91.

10 Northern Territory Government, Submission 49, p 5.

> design was achievable that would ensure the protection of the World Heritage values of Kakadu National Park.[11]

Professor Wasson, one of the major critics of the assessment process, has conceded that 'it is not usual to have a detailed design available' at the stage of an EIS.[12] However, although considering them issues for the detailed design stage of the project, at the request of the World Heritage Committee the Supervising Scientist analysed a number of issues in relation to the protection of the natural World Heritage values of Kakadu National Park. The conclusion of that analysis was that the project posed no threat to the natural values of the Park and that the degree of scientific certainty that applied to this assessment was very high.[13] (See Appendix 1 to the Government Senators' Report, below.)

The report to the World Heritage Committee has been reviewed by the International Council for Science (ICSU) which has agreed that there is now a high degree of scientific certainty in relation to predicting the impact of Jabiluka and Ranger on Kakadu. According to the ICSU:

> The Supervising Scientist's report and supporting documentation contains new information and analyses that enable a scientific assessment to be made of the impact of the Jabiluka mine on the World Heritage values of Kakadu with a much greater degree of certainty than formerly.[14]

Once the mine is operational, oversight is provided by the Minesite Technical Committee, which includes officials from the NT Department of Mines and Energy, staff of the Office of the Supervising Scientist, staff of the Northern Land Council and of the mining company. Every approval or authorisation given for the operation of the Ranger mine or the future operation of the Jabiluka mine goes through a detailed assessment by that committee.

More generally, over the life of the mine, information will be gathered, technology improved and reviews undertaken by that committee, all of which will combine to improve the performance of the mine. The Supervising Scientist gave an example to the Committee of the way in which the water management system at Ranger was improved through just such a review.[15]

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11 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 2.

12 Professor Robert Wasson, *Proof Committee Hansard*, Canberra, 11 June 1999, p 29.

13 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 99.

14 International Council of Scientific Unions, *Review of an Independent Scientific Panel of the scientific issues associated with the proposed mining of uranium at Jabiluka in relation to the state of conservation of Kakadu National Park*, May 1999, p 4.

15 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 8-9.

The Supervising Scientist

A number of opponents of the Jabiluka project have criticised the Office of the Supervising Scientist (OSS), suggesting that its staff are not genuinely independent and that the OSS is too reliant on, and uncritical of, data supplied by the company. It was also suggested that the Supervising Scientist and his staff were subject to political direction from the Minister.

The independence of the Supervising Scientist is enshrined in the *Environment Protection (Alligator Rivers Region) Act 1978*. The Supervising Scientist reports to the Minister for the Environment and is subject to the direction of the Minister, but any directions by the Minister must be reported by the Supervising Scientist in his annual report, which is tabled in Parliament. In the 21 years since the Office of the Supervising Scientist was established only two such directions have been given.[16]

In the case of Jabiluka, the *Report of the Supervising Scientist to the World Heritage Committee* was finalised without being seen by the Minister or his staff, no directions were given by the Minister and no requests to see the report were received from the Minister's office prior to its being submitted to the WHC.[17]

Professor Wasson stated that: 'we would like to have it on the public record that the OSS report is of a high quality,' and that he and his colleagues had only two remaining concerns.[18] The Supervising Scientist, Dr Arthur Johnston, addressed both of those concerns in his evidence to the Committee.

Government Senators have the highest confidence in the expertise and the independence of both the Supervising Scientist and the scientists associated with reviews of the various assessment reports and of the Supervising Scientist's own report to the World Heritage Committee. It is the nature of scientists to scrutinise evidence rigorously and to reach verifiable conclusions. As the former Supervising Scientist, Dr Peter Bridgewater, said in relation to the Jabiluka proposal:

> Scientists do not normally persuade each other, other than through the veracity of their work.[19]

Environmental Issues

Government Senators recognise and accept the outstanding significance and value of the environment of Kakadu National Park, and that it is essential that that environment be fully protected and appropriately managed. Given the importance of the region to

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16 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 1-2.

17 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 2, 15.

18 Professor Robert Wasson, *Proof Committee Hansard*, Canberra, 11 June 1999, p 25.

19 Dr Peter Bridgewater, Senate Environment, Communications, Information Technology and the Arts Legislation Committee, Consideration of Additional Estimates, 5 May 1999, *Proof Committee Hansard*, p 323.

Australians, and also internationally, the idea that the Government would not take the utmost precautions to ensure its preservation is unthinkable. To allow the values of the Park to be degraded would be to ignore the responsibilities that the Government has to protect those values. It is in this context that the Government has approached the environmental assessments of the Jabiluka mine project.

Kakadu is a place of climatic extremes. It experiences the highest thunderstorm activity of any place on the planet and is subject to extreme flooding, sometimes over 2,200 mm per year. Early in the wet season the surface water is quite acid, possibly from dissolved aluminium, and acidic water takes with it uranium ore naturally exposed at the surface.

The ecology of Kakadu has thus evolved in the context of naturally occurring uranium. Approximately 170 kilograms of uranium is washed from natural sources into the Magela floodplain each year and eventually out to sea. The Magela floodplains cover six hundred square kilometres and the enormous volume of the catchment provides a very high dilution factor.[20] The issues considered below need to be seen in the context of this natural occurrence.

Tailings

The first of Professor Wasson's concerns related to the likelihood of above ground storage of tailings, an option which was not approved by the Minister for Resources and Energy and which is therefore no longer an issue. Professor Wasson stated that:

> If we accept the current strategy for returning the tailings to the void, then most of our issues to do with tailings management vanish – as long as the groundwater issues can be coped with, and our current understanding is that that is highly likely.[21]

Dr Johnston told the Committee that even with best practice engineering tailings stored on the surface would eventually disperse over thousands of years and that it was better that they be stored underground, provided that one could be confident that there was no risk associated with transported groundwater. In that case they could be contained for millions of years.[22]

In relation to the underground storage of tailings, the permeability of the sandstone in which the tailings will be stored at Jabiluka is relatively low, and it is expected that the uranium will move a maximum of forty to fifty metres in a period of a thousand years. With the decline now complete very little water has appeared in the excavated area of the mine, confirming scientific estimates of very low permeabilities.[23] As

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20 Professor Ben Selinger, Submission 25, p 4.

21 Professor Robert Wasson, *Proof Committee Hansard*, Canberra, 11 June 1999, p 26.

22 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 14.

23 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 10.

Professor Ian White told the Committee, 'that is actually a nice test of the hydrology of the area.'[24]

It is worth noting that even stored above ground the tailings material would not pose a serious risk:

> We are not dealing with a dangerous, highly radioactive material. It is above background but it is not much above background.
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> …
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> [But] Because you are allaying fears you go beyond what a technical person would say is necessary … If there is a technology that is not too expensive which takes you further, then why not use it.
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> …
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> Let me put the tailings in perspective. If someone were to sit on the Ranger tailings, which are basically the same, for a year, unprotected, just sitting on them, the dose they would get would be roughly the same as what an airline hostess gets from the cosmic rays during a year's work.[25]

The cement paste technology proposed for the underground storage of tailings will offer significantly increased physical stability of the tailings mass, will neutralise any acid-producing potential of the tailings mass, which does exist at Jabiluka, and will precipitate and fix in place a number of metals. The potential risk of movement of contaminants from the tailings will be substantially reduced by the application of this technology.[26]

In relation to the key concern associated with the tailings, Dr Johnston stated that:

> The issue that we are dealing with here is the question of how likely it is that there will be constituents move out from that tailings mass and have an impact on the surface waters of Kakadu. We are very, very confident that that will not happen.[27]

Similarly, the ICSU review of the Supervising Scientist's report to the World Heritage Committee, compiled by an international panel of eminent, independent experts, stated that modelling showed that:

> transport of uranium and radium away from the repository is very limited, even after 1,000 years and that the concentrations are very low. This would

24 Professor Ian White, *Proof Committee Hansard*, Canberra, 11 June 1999, p 30.

25 Professor Ben Selinger, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 70-71.

26 Mr Stewart Needham, Office of the Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 19.

27 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, p 20.

> therefore not appear to present any foreseeable risk to the Kakadu environment.[28]

Water Management

The second concern raised by Professor Wasson and his colleagues related to the possible impact on unique ecosystems downstream from the mine in the unlikely event of water being released from the mine. The Supervising Scientist indicated that the necessary information was available and that he would be providing it to Professor Wasson and his colleagues.[29]

All stormwater run-off within the 'Total Containment Zone' surrounding key facilities at the site will be contained by an 8.5 hectare retention pond designed to withstand a 1 in 10,000 year rainfall event and lined to prevent seepage to groundwater. Water thus contained will be disposed of through evaporation and recycling.[30]

Concerns have been raised, however, about storage and evaporation ponds and the impact of extreme weather events on water management at the mine. Calculations show that wet seasons that might occur once in 1,000 or once in 10,000 years would not result in the release of any water from the mine site into the surrounding environment. Nor would a single extreme flood event, such as the one that occurred at Katherine in 1998.

However, a combination of those two events, an extreme flood event following an extremely unusual wet season, would result in the escape of water from the mine site to the downstream environment. In those circumstances, the probability of which is extremely low, the Supervising Scientist expects that there would be limited effect in Swift Creek and no significant impact in the floodplain itself.[31]

The Supervising Scientist reported to the World Heritage Committee that his review of scientific issues raised by the mission to Kakadu National Park had demonstrated that there were certain weaknesses in the hydrological modelling presented by ERA in the EIS and the PER, and that accordingly, a number of recommendations had been made which should be implemented in completing the detailed design of the Jabiluka project.

However, he also reported that even if ERA's water management plan, as proposed in the PER, had been implemented, the risk to the wetlands of Kakadu National Park, and the risk of radiation exposure to people of the region, would have been extremely

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28 International Council of Scientific Unions, *Review of an Independent Scientific Panel of the scientific issues associated with the proposed mining of uranium at Jabiluka in relation to the state of conservation of Kakadu National Park*, May 1999, p 21.

29 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 2-3.

30 Energy Resources of Australia, Submission 32, p 4.

31 Dr Arthur Johnston, Supervising Scientist, *Proof Committee Hansard*, Canberra, 11 June 1999, pp 16-17.

low, even in extreme circumstances leading to the complete failure of the structure of the water retention pond at Jabiluka:

> The lay reader will, no doubt, find this conclusion surprising. Its origin, however, lies in the fact that uranium is not a particularly toxic substance for aquatic animals. It has been well established that the toxicity of uranium is much lower than that of many many more common substances such as copper, cadmium and lead. It is the perception of the public that uranium is a very dangerous substance, and the failure of the scientific community to persuade the public otherwise, that has led to adoption of extreme measures to ensure that no amount of uranium should leave the site of a uranium mine.
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> …
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> Thus, on scientific grounds, there is no reason why water collected at Jabiluka could not be discharged into the surface waters of the Magela floodplain under a suitably designed control regime that would protect both people and ecosystems. The proposal by ERA that these waters should be totally contained at the mine site was made in response to social concerns and perceptions, not scientific evidence.[32]

There is thus little or no threat posed to the environment and the World Heritage values of Kakadu National Park in the unlikely event of water being released from the mine.

Professor Ben Selinger also argued that the possible release of water from the mine site was not a significant issue, when he told the Committee that:

> Taking a fairly cynical view of the modelling, the hydrology and so on, I ask myself the following question: let us say that these projections are wrong and the tailings water does actually get into the environment, what big difference will it make? Given the size of the flood plain, 600 square kilometres … if there should be an enormous flood at some stage in the next 10,000 years, the chances of its making a measurable difference, except for the very short term, is quite small.[33]

As noted above, the leaching of uranium into the floodplain is a naturally occurring process; there is a considerable amount of uranium at the surface and it is relatively soluble, so that 'every time it rains you get uranium naturally flowing into the Magela floodplains – about 160 kilograms per year – and it ends up in the sediment and finally washes out to sea.' If there were a disastrous flood and mine site water was released into the local environment, it would be 'more concentrated and for a short period you

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32 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 99.

33 Professor Ben Selinger, *Proof Committee Hansard*, Canberra, 11 June 1999, p 69.

will get a spike that is higher, [but] given that sort of big flood, it would flood out fairly quickly.'[34]

In the case of day to day mining operations at Ranger, regular stringent testing has revealed that flora and fauna downstream of Ranger have not been adversely affected by mining operations. The Supervising Scientist has stated that:

> The natural values of Kakadu National Park are not threatened by the development of the Jabiluka uranium mine and the degree of scientific certainty that applies to this assessment is very high. There would appear, therefore, to be no justification for a decision by the World Heritage Committee that the natural World Heritage values of Kakadu National Park are in danger as a result of the proposal to mine uranium at Jabiluka.[35]

Government Senators are confident that the two issues of tailings disposal and water management have been more than adequately addressed in the various stages of the environmental assessment process. In the case of the storage of tailings, there is clear scientific evidence that the use of cement paste technology and underground storage will ensure that the contaminated material, although not inherently dangerous, will remain contained for millions of years.

In the case of water management, it is significant that while the Supervising Scientist's report to the World Heritage Committee noted some deficiencies in ERA's proposed water management plan, it states quite clearly that had it been implemented there would have been very little risk to the wetlands of Kakadu National Park or to people in the region. Nevertheless, an improved design will be implemented and there will be an even lower risk of damage to the Park environment.

Radiological Protection

Australia has always been at the forefront in responding to recommendations of the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency and in maintaining a good radiological control regime for uranium mining. Australia has applied a higher radiation control standard to the industry than that adopted by the United States and Canada.[36]

According to the Supervising Scientist:

> uranium in its natural state does not pose a particularly severe radiation threat. Exposure to uranium and its radioactive progeny needs to be controlled but the inherent radioactivity of uranium and its progeny is sufficiently low that ensuring that people do not receive exposures that would be harmful is relatively straightforward. It is only when uranium is

34 Professor Ben Selinger, *Proof Committee Hansard*, Canberra, 11 June, p 74.

35 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 14.

36 Mr Mark Sonter, Submission 23, pp 1-2.

> used as fuel in a reactor that fission reactions result in a large number of radioactive products which produce high levels of ionising radiation.[37]

The average yearly radiation dose received by uranium miners in Australia, including those at Ranger, is approximately 5 millisieverts per year, about equal to a CAT scan or to two hip or pelvis x-rays. It is little more than twice what most people are exposed to from naturally occurring background radiation, which in Australia is 2 millisieverts per year. In some areas of Europe and the United States background levels are considerably higher.[38] An international flight attendant is estimated to receive an annual dose of three millisieverts per year.[39] The standard set by the ICRP (and by the National Health and Medical Research Council) for uranium workers is a maximum average exposure of 20 millisieverts per year.

Mr Mark Sonter, an independent, expert consultant, stated in his submission to the Committee that:

> The only way one can support a belief that somehow Australia has failed to fulfil its international and domestic obligations in regard to radiological protection, is to believe the claims of avowed anti-nuclear opponents whilst disbelieving the considered, published, professional opinions over the last twenty years of all relevant State Mines and Health Department officers of the five states involved, the officers of OSS and ARL [Australian Radiation Laboratory], and the governmental assessment reviews of the various EIS documents which have passed muster, and of the various committees of inquiry which have been held over the years, and the professional health physicists working for the companies.[40]

Government Senators, like Mr Sonter, find the notion of a conspiracy of the magnitude that would be required to achieve such consistent conclusions, in a range of jurisdictions over such a time frame, difficult to credit, to say the least.

At Jabiluka, an underground mine, the predicted doses for the most exposed workers will be 11.8 millisieverts per year. This will be achieved by using a once-through ventilation system with approximately double the normal airflow for underground mines. The design includes high airflow velocities and single pass use of fresh air in the ore body.[41] In its assessment of the 1997 EIS, Environment Australia took advice

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37 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 99.

38 Professor Ben Selinger, Submission 25, p 3; Mr Mark Sonter, Submission 23, p 2; Energy Resources of Australia, Submission 32, p 5.

39 Professor Ben Selinger, *Canberra Times*, 3 June 1999, p 10.

40 Mr Mark Sonter, Submission 23, p 2.

41 Energy Resources of Australia, Submission 32, p 5.

from the Australian Radiation Laboratory and made specific recommendations, including routine and periodic measurement of a range of factors.[42]

Australian legislation requires that the public must not be exposed to additional radiation, above natural background radiation, of more than an average of 1 millisievert per year. The potential exposure levels for the public in the vicinity of the Jabiluka mine will be 0.1-0.5 millisieverts per year. Radiation levels will be constantly monitored by detection equipment of the most advanced kind.[43]

The Supervising Scientist reports that in the entire nineteen year period of mining at Ranger, there has been:

> no detectable impact on a range of sensitive indicators of ecological health, including the survival of larval fish, the reproduction of freshwater snails, the migration patterns of fish and the community structure of fish and macro-invertebrates, and that the radiation exposure of people living in the vicinity of the mine, either through consumption of foods collected in downstream waters or through radon dispersed from the mine site, has always been significantly lower than the internationally recommended limit on radiation exposure of members of the public.[44]

Government Senators are confident that the most advanced technology will be used to ensure the minimum exposure possible of workers to radiation in the Jabiluka mine, and that exposure for both mine workers and the general public will fall well within the international standards. They are also confident that there is minimal risk of radiation contamination of the surrounding environment.

Indigenous Issues

The 1982 Agreement

Aboriginal people of the Northern Territory have the right of veto over mining on their land. This is a right not available to non-indigenous Australians through the Northern Aboriginal Land Council. The Traditional Owners of Jabiluka chose, however, to consent to mining on their land.

The development and finalisation of the 1982 Agreement involved a number of years of negotiations with Traditional Owners and included hundreds of meetings with them and with other Aboriginal custodians in the Kakadu region with an interest in the Jabiluka mine. In contrast to recent concerns regarding the Agreement process, none

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42 Mr Gerry Morvell, Department of the Environment and Heritage, *Proof Committee Hansard*, Canberra, 11 June 1999, p 47; Environment Australia, *Environment Assessment Report, Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No. 2: The Jabiluka Proposal*, August 1997, pp 90-96.

43 Energy Resources of Australia, Submission 32, pp 5-6.

44 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 91.

of the principals associated with the Agreement in 1982 have disowned it or the process which led to its finalisation.

The Northern Land Council (NLC) has a statutory responsibility under section 23(3) of the *Aboriginal Land Rights (Northern Territory) Act 1976* to ensure that appropriate consultation takes place with the Traditional Owners over development of their land and that it has their informed consent for agreements made in relation to developments. It is clear that the NLC complied with that responsibility in negotiating the 1982 Agreement and the 1991 transfer of the lease from Pancontinental to ERA.

Representatives of the Northern Land Council, appearing before the Committee in Darwin, stated that while recognising the change of views on the part of the current generation of Traditional Owners:

> the NLC entered into the agreement in 1982 as a result of extensive consultations with traditional owners. It is of the view that those consultations were done properly and extensively and that informed consent was obtained. Leading from that was a formal, legally binding agreement, which the Land Council stands by.[45]

The consultation leading up to the original 1982 Agreement was not questioned for fifteen years and the Traditional Owners approved the 1991 transfer almost a decade after the 1982 Agreement. At the conclusion of negotiations for the original agreement the senior Traditional Owners stated that they hoped that the Jabiluka project would be a success and affirmed that no pressure had been applied by Pancontinental to reach the decision to consent to the project.[46]

Mr Robin Bryant, General Manager of the Energy Minerals Branch in the Department of Industry, Science and Resources, told the Committee that:

> In 1982 there was an agreement under section 43 of the Land Rights Act between the then proponent of this project, Pancontinental, and the Northern Land Council. The Northern Land Council in turn, under its legislation, was obliged to consult with and represent the views of the relevant traditional owners and affected Aboriginals. Included among those, of course, were the Mirrar-Gundjehmi people …
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> A very extensive consultation period, by the Northern Land Council and the company, extended over some many months … prior to the conclusion of that agreement in 1982. In 1991, the rights under the agreement were assigned … from Pancontinental to ERA. That in turn required the agreement of the Northern Land Council, and the relevant traditional owners would have been consulted or would have had entitlements. With respect to the Northern Land Council, it clearly saw no basis on which it could

45 Mr John Roberts, Northern Land Council, *Proof Committee Hansard*, Darwin, 16 June 1999, pp 141-142.

46 Energy Resources of Australia, Submission 32, p 7.

> reasonably refuse to provide that agreement. The Northern Land Council has advised the World Heritage Committee that it stands by the 1982 agreement, as assigned in 1991 to ERA, and that it is satisfied that the consultations in 1982 had led to an informed consent by the relevant traditional owners.[47]

Professor Jon Altman and Dr Roy Green, members of the World Heritage Committee mission to Kakadu, commented that:

> reconsidering the status of the 1982 agreement would overturn the principles of property law in Australia, establishing a precedent that a changing oral consent could over-rule a written contract, thereby privileging the property rights of one group over another, and would jeopardise Aboriginal economic opportunities based on mining futures and, possibly, the credibility of Aboriginal land rights law.[48]

The Traditional Owners have made no moves under Australian law to rescind the 1982 Agreement. To set aside the agreement outside the appropriate legal processes would have serious consequences and, as suggested by Professor Altman and Dr Green, set a dangerous precedent.

The consequences of such a precedent would result in large areas of Australia under Aboriginal ownership possibly being regarded as 'out of bounds' for any future negotiated agreements. This would limit Aboriginal people's opportunities to enter into such agreements and thus limit their ability to maximise the returns from their unique property rights in relation to mineral development on their lands.

Government Senators believe that the 1982 Agreement was negotiated in good faith after extensive consultations with the appropriate Traditional Owners and their representatives, and concur with the view expressed in the Government's response to the World Heritage Committee, that to set the 1982 Agreement aside would risk:

- creating a precedent that would unjustly privilege one set of acquired rights over another, to the extent of allowing one party unilaterally to revoke a contract, freely given and accompanied by payments, at a later date;
- extending the ambit of the World Heritage Committee, unilaterally and in a manner that is not consistent with the Convention, into questions of mineral rights, property law and indigenous land ownership when the Convention itself expressly recognises that these are matters for the relevant State Party;

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47 Mr Robin Bryant, Department of Industry, Science and Resources, *Proof Committee Hansard*, Canberra, 11 June 1999, p 56.

48 UNESCO World Heritage Committee, *Report on the mission to Kakadu National Park, Australia, 26 October to 1 November 1998*, Annex I, p 2.

- injustice to the Company who have complied with every law, met every requirement, respected every notified Aboriginal site in managing the project; and
- pre-empting any domestic law processes to consider these issues.[49]

Sacred Sites

Opponents of the mine have argued that the sites known as Boiwek (or Boyweg) and Almudj, now referred to as the Boiwek-Almudj complex, are significant sacred sites and that the development of the mine will cause irreparable harm to the sites and to the Aboriginal community as a result.

Government Senators on the Committee accept that there are discrete sites near the mine, of significance to the Aboriginal community, but believe that on the basis of anthropological evidence accumulated over many years, including information supplied by the Traditional Owners themselves, there is no threat to those sites from the proposed development of the mine. Energy Resources of Australia has, in fact, made strenuous efforts to identify and protect sites within the lease area.

The company's task has been made more difficult by the unwillingness of the present group of Traditional Owners to cooperate in a Cultural Heritage Management Plan. However, despite uncertainty about the proposed sacred areas known as Boiwek and Almudj, they will be protected from any potential damage arising from development of the project.

Although the 1982 Agreement between ERA and the Northern Land Council, acting on behalf of the Traditional Owners, states that there are no sacred sites within the operational area of the mine, following more recent representations by the NLC the company has banned entry by mine staff into an area much larger than the soakage or swamp which has previously been recorded as the Boiwek site.

Recent claims that the Boiwek site is larger (covering a wider area), deeper (extending to the ore body) and of greater significance (more ancestors, more dangerous) than previously acknowledged need to be weighed against the historical facts that approvals for any mine project, including exploratory drilling needed to be provided by Traditional Owners before any work could commence. These permissions were given.

There is a very substantial body of anthropological evidence available over many years from work in the region in relation to the site. Several highly regarded anthropologists, working closely with Traditional Owners, including the father of the current Senior Traditional Owner, have defined the site of Boiwek as a small, discrete soakage or swamp on the edge of the wetlands located to the west of the Jabiluka mine

49 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, April 1999, p 89.

valley. It was a sacred, but not necessarily a dangerous, site. There will be no damage or disturbance to this site from the Jabiluka development.

When negotiating agreements for access and mining, the previous and current Senior Traditional Owners consistently indicated to the owners of the Jabiluka mineral lease that the major site was confined to the area of the soak. This is reflected in the 1982 Agreement. It was not until 1997 that claims were made about a possible extended area for Boiwek, possibly covering the whole of Mine Valley. These revisions also upgraded the category of the site from sacred to sacred and dangerous, and involving sub-surface manifestations, perhaps defined by the ore body.

At a meeting between the Minister for Environment and Heritage, on 9 February 1999, and the Traditional Owners of the Jabiluka Mineral Lease, the Senior Traditional Owner made several statements concerning Boiwek. In brief these were that the site is three ancestors, that the site has sub-surface manifestations, and that any disturbance would destroy the community.[50]

These claims are not consistent with anthropological records or with the previous statements and permissions given between 1976 and 1997 by Traditional Owners, including the current Senior Traditional Owner, and spelt out in legal agreements and site permits agreed by the current Senior Traditional Owner as recently as 1992. Those permissions were freely given and the Northern Land Council has confirmed that the consultation process was adequate and effective.

Despite requests, no other evidence has yet been supplied by Traditional Owners to the Australian Government to substantiate the recent claims.

The Aboriginal Areas Protection Authority (AAPA), the body established by Northern Territory legislation specifically to investigate and register sacred sites, was not involved until late 1997, when the Senior Traditional Owner approached the Northern Land Council for assistance in making a submission to the AAPA to have the Boiwek-Almudj site registered as a sacred site under the NT *Northern Territory Aboriginal Sacred Sites Act 1989*.[51]

Dr David Ritchie, Chief Executive Officer of the Authority, told the Committee that there was 'considerable disagreement' over the site, and stated that key points about the site were 'fairly heavily contested,' to the extent that the Authority could not enter the site on the register of sacred sites.[52] Mr Jeff Stead, Manager of the Anthropology Branch of the Northern Land Council, also referred to 'disagreement among

50 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, April 1999, p 70.

51 Aboriginal Areas Protection Authority, Submission 52, p 1; Dr David Ritchie, Aboriginal Areas Protection Authority, *Proof Committee Hansard*, Darwin, 16 June 1999, p 172.

52 *Proof Committee Hansard*, Darwin, 16 June 1999, p 173.

Aboriginal people' about the status of the Boiwek-Almudj site and to the inconclusive and confused nature of the evidence.[53]

In a letter to the Northern Land Council in July 1998, the AAPA stated that:

> The Authority noted that on a number of key issues, including the location and extent of the site and the physical features that constitute the site and the significance of the site according to Aboriginal tradition, there were widely divergent and strongly held positions taken by various custodians. Disagreement on the part of some senior custodians with the proposed registration had the effect of creating substantial doubt from a legal point of view that the area proposed for registration is a sacred site.[54]

Government Senators believe that every effort has been made by Commonwealth and Northern Territory agencies, and by Energy Resources of Australia, to identify and protect sacred sites within the Jabiluka mineral lease. They believe that the mine should proceed in accordance with the extensive provisions applying to the protection of Aboriginal heritage in Commonwealth and Northern Territory law. (See also Appendix 3 to the Government Senators' Report, below.)

Social Issues

The Kakadu Region Social Impact Study (KRSIS) has identified a number of issues which need to be addressed. The Government has acknowledged the need for a positive and comprehensive response to those social impact issues and has accelerated the implementation of agreed KRSIS outcomes. The great majority of Traditional Owners from clans in the region are participating in these initiatives, although the Mirrar-Gundjehmi have not yet agreed to participate.

Energy Resources of Australia co-funded the KRSIS study in order to identify Aboriginal concerns with a view to understanding and responding to Traditional Owner concerns. ERA has entered into a Deed Poll with the Northern Land Council committing to the most important recommendations of the Study, involving funds in excess of $9 million and significant Aboriginal employment.[55]

The Jabiluka project has already generated $5.2 million of benefits for Aboriginal people and over the life of the mine is expected to contribute a further $230 million. It is expected that these funds will be used to complement Government programs and provide benefits in a range of health, education and other community services, cultural and land management programs, business development and financial investment.[56] The delays associated with the project have prevented many of these benefits

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53 *Proof Committee Hansard*, Darwin, 16 June 1999, p 150.

54 Letter from the Aboriginal Areas Protection Authority to the Northern Land Council, 20 July 1998, quoted in: Aboriginal Areas Protection Authority, Submission 52, p 1.

55 Energy Resources of Australia, Submission 32, p 7.

56 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, April 1999, p 21.

associated with the operation of the mine from being delivered to the affected communities.

Mr Tony McGill, Director of Mines for the Northern Territory Government, told the Committee that:

> The Jabiluka mine will infuse over $200 million in royalty benefits directly to the regional community over its 25 year life. There will be a positive social, economic and employment benefit flowing from those royalties and from the mine. Many of the traditional owners of Kakadu National Park strongly support mining as a means of obtaining economic independence.[57]

World Heritage

The majority report has clearly set out the criteria under which Kakadu National Park is justifiably listed by the World Heritage Committee. On both natural and cultural grounds the Park is an outstanding example of World Heritage, of which all Australians have reason to be proud. The Australian Government takes its responsibilites under the World Heritage Convention seriously; Australia is the only country which has put into place domestic legislation to address its obligations under the Convention.

Government Senators believe that the rigour of the environmental assessments required by the Government, the ninety recommendations made by the Environment Minister, the further independent reviews commissioned by the Minister and the transparency of the entire process all reflect the Government's commitment to protecting the World Heritage values of the Park.

There is no basis, in terms of ascertained or potential dangers, on which to place Kakadu National Park on the List of World Heritage in Danger. To do so, in the light of all the evidence presented in a number of reports, would be to undermine the credibility of the World Heritage Convention and the spirit of consensus and common purpose which has been a fundamental feature of the Convention's implementation and administration to date.

Energy Resources of Australia has recognised that operating mining projects adjacent to a World Heritage area demands significant attention and responsibility to manage environmental and cultural issues. ERA's operations at Ranger are the most closely monitored mining activities in Australia's history, and the regulation of the Ranger mine by the Northern Territory Government has ensured that the protection of Kakadu National Park has exceeded that predicted by the Fox inquiry.[58]

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57 *Proof Committee Hansard*, Darwin, 16 June 1999, p 112.

58 Northern Territory Government, Submission 49, p 5.

Government Senators have examined above both the environmental and indigenous issues which have been cited as posing a threat to the World Heritage values of the Park. It is clear that in neither case are there any grounds for concern.

In 1987 the World Heritage Committee accepted the nomination of Stage 2 of Kakadu National Park. At that time the Ranger uranium mine had been operating for six years; presumably the proximity of a working uranium mine was not considered to pose a danger to the World Heritage values of the Park.

In relation to natural values, Kakadu National Park is inscribed on the World Heritage list under three criteria. The one most relevant to claims of a threat posed by the mine project is the significance of habitats within the Park where threatened species of plants and animals of outstanding universal value survive. As stated above, all the scientific studies have demonstrated that the mine will pose no threat to those habitats and species.

The other two natural values will not be threatened either: the ongoing geological processes and biological evolution will continue, and the examples of superlative natural phenomena and outstanding natural beauty will remain. The Jabiluka mine, when complete, will have a far smaller impact on the immediate site than the Ranger mine has had and will not be visible from anywhere within the World Heritage area.

In relation to cultural values, the Park is inscribed on the World Heritage list for its direct association with living traditions of outstanding universal significance and for its unique artistic achievements. The Government is committed to protecting these examples of World Heritage through joint management of the park with its Aboriginal owners.

The Government and ERA have made strenuous but unsuccessful efforts to obtain the cooperation of the Traditional Owners of the Jabiluka lease area in the development of a Cultural Heritage Management Plan. Nevertheless, the Government and the company, in cooperation with a range of authorities and on the basis of knowledge accumulated over a long period, have made every attempt to identify and protect significant sites within the lease area. Government Senators are confident that the mine project will not threaten the cultural heritage of the Park.

In summary, Government Senators believe that the Supervising Scientist's comment, made in the conclusions of his report to the World Heritage Committee, is fully justified but that it applies to both natural *and* cultural World Heritage values:

> There would appear, therefore, to be no justification for a decision by the World Heritage Committee that the … World Heritage values of Kakadu National Park are in danger as a result of the proposal to mine uranium at Jabiluka.[59]

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59 Supervising Scientist, *Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, p 14.

Conclusion

The Jabiluka project was assessed over a period of three years. Not only were the two formal assessment processes scrutinised by the Commonwealth and Northern Territory Environment Ministers, but during that period there were two opportunities for public review of the documentation. The decisions following the two processes contained ninety recommendations, all of which were accepted by the action minister.

Additionally, a further scientific review, examining issues usually left to the detailed design stage, was carried out and that review was itself the subject of independent review by an international panel of experts. It is simply not possible to argue that the environmental assessment process has been anything but comprehensive, scientifically rigorous, transparent and closely scrutinised.

Senator John Tierney (Deputy Chair)

Senator Marise Payne
Senator Alan Eggleston

GOVERNMENT SENATORS' REPORT: APPENDIX 1

CONCLUSIONS OF THE REPORT OF THE SUPERVISING SCIENTIST TO THE WORLD HERITAGE COMMITTEE[60]

This report has been prepared in response to the request of the World Heritage Committee that the Supervising Scientist conduct a full review of scientific issues raised by the Committee's Mission to Kakadu National Park in October–November 1998. Perceived scientific uncertainty with respect to these issues had led to the Mission's conclusion that the natural values of Kakadu are threatened by the Jabiluka project.

It must be emphasised that this report does not purport to be a complete environmental impact assessment of the Jabiluka project. There are many environmental protection issues related to the development of Jabiluka that were not raised in the Mission's report or in the decision of the World Heritage Committee. These broader issues have already been addressed in the environmental impact assessment process to which the Jabiluka project was subjected and are covered by the requirements that the Commonwealth Government imposed in granting its approval for the project to proceed.

This report includes a thorough review of all of the issues raised by the World Heritage Committee and provides a detailed assessment of the risks to the wetlands of Kakadu arising from the storage of uranium ore at the surface at Jabiluka, the management of water and the storage of tailings.

Before summarising the report's conclusions, it is pertinent to a provide brief comment on the environmental impact assessment process in Australia. For a project of environmental significance, any Commonwealth approvals may only be given following environmental assessment under the Commonwealth's *Environment Protection (Impact of Proposals) Act 1974*, the EPIP Act. A similar process is also required under State or Territory legislation and, where both are required, these processes may be carried out jointly under Commonwealth and State or Territory law.

The intent of the EPIP Act, and its State/Territory counterparts, is to ensure that matters affecting the environment to a significant extent are fully examined and taken into account in decisions taken by the Commonwealth and State/Territory governments. The proponent must describe the design of the project in sufficient detail that the likely environmental impact arising from the project can be adequately assessed. However, the detailed design of the project may not have been completed prior to submission of the EIS. The detailed design of the project would normally be completed after approval has been given for the project to proceed under the EPIP Act process so that any environmental conditions can be included within final design parameters. Recognition is given to the fact that each State and Territory has in place a regulatory regime under which detailed aspects of a project are assessed and specific authorisations and approvals are granted.

In the case of uranium mining in the Alligator Rivers Region of the Northern Territory, specific authorisations and approvals are granted by the responsible Northern Territory

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60 Supervising *Scientist, Assessment of the Jabiluka Project, Report of the Supervising Scientist to the World Heritage Committee*, April 1999, pp 98-99. http://www.environment.gov.au/science/whc/TheMainReport.pdf

Minister under the *Uranium Mining (Environmental Control) Act 1979*. Under the Working Arrangements agreed between the Commonwealth and Northern Territory Governments, the Supervising Scientist reviews the environmental aspects of all detailed proposals that might be the subject of such authorisations and approvals and provides advice to the Northern Territory on the environmental consequences. It is through this process that the detailed design of the Jabiluka project would be assessed and approved.

Many of the issues that were raised by the report of the Mission of the World Heritage Committee come into the category of detailed design. That is, many of the issues had been identified by the Supervising Scientist and others as being issues that would need to be resolved by the proponent in consultation with officials of the Northern Territory and the Supervising Scientist at the detailed design stage but the conclusion had been reached that there were no insurmountable obstacles that would prevent a design being achieved that would ensure the highest level of environmental protection in Kakadu National Park.

This detailed review has demonstrated that there were a number of weaknesses in the hydrological modelling presented by ERA in the EIS and the PER. Accordingly, a number of recommendations have been made which should be implemented by ERA in completing the detailed design of the Jabiluka project. On the other hand, the review has demonstrated quite clearly that, if the design of the water management system proposed by ERA in the PER *had* been implemented, the risk to the wetlands of Kakadu National Park, and the risk of radiation exposure to people of the region would have been extremely low. This conclusion is valid even in extreme circumstances leading to the complete failure of the structure of the water retention pond at Jabiluka.

The lay reader will, no doubt, find this conclusion surprising. Its origin, however, lies in the fact that uranium is not a particularly toxic substance for aquatic animals. It has been well established that the toxicity of uranium is much lower than that of many many more common substances such as copper, cadmium and lead. It is the perception of the public that uranium is a very dangerous substance, and the failure of the scientific community to persuade the public otherwise, that has led to adoption of extreme measures to ensure that no amount of uranium should leave the site of a uranium mine.

Similarly, uranium in its natural state does not pose a particularly severe radiation threat. Exposure to uranium and its radioactive progeny needs to be controlled but the inherent radioactivity of uranium and its progeny is sufficiently low that ensuring that people do not receive exposures that would be harmful is relatively straightforward. It is only when uranium is used as fuel in a reactor that fission reactions result in a large number of radioactive products which produce high levels of ionising radiation.

Thus, on scientific grounds, there is no reason why water collected at Jabiluka could not be discharged into the surface waters of the Magela floodplain under a suitably designed control regime that would protect both people and ecosystems. The proposal by ERA that these waters should be totally contained at the mine site was made in response to social concerns and perceptions, not scientific evidence.

The long-term threats to the wetlands of Kakadu arising from the storage of uranium mill tailings at Jabiluka have also been assessed. Because the tailings will be stored at a significant depth below the surface of the land, physical dispersion of the tailings will not be possible for millions of years. The whole land mass would need to be eroded away and by that time the wetlands of Kakadu would no longer exist. Even then, the threat to future generations is

insignificant because the residual uranium and its radioactive progeny would be present at low concentrations and would be mixed, when dispersed, with the inert material surrounding the current orebody. Dispersion of radionuclides and other constituents of the tailings in groundwater has been shown to present no threat to the wetlands of Kakadu or the people who live there in either the short-term or the long-term.

The conclusion of this review, therefore, is that, contrary to the views expressed by the Mission, the natural values of Kakadu National Park are not threatened by the development of the Jabiluka uranium mine and the degree of scientific certainty that applies to this assessment is very high. There would appear, therefore, to be no justification for a decision by the World Heritage Committee that the natural World Heritage values of Kakadu National Park are in danger as a result of the proposal to mine uranium at Jabiluka.

GOVERNMENT SENATORS' REPORT: APPENDIX 2

EXCERPTS FROM THE GOVERNMENT'S RESPONSE TO THE WORLD HERITAGE COMMITTEE IN RELATION TO THE 1982 AGREEMENT[61]

The *Aboriginal Land Rights (Northern Territory) Act 1976* (the Act) provides indigenous people of the Northern Territory the right of veto over mining on their land. The legislation in Northern Territory is currently the strongest operating in Australia. The right of veto provided by this Act does not apply to land owned by non-Indigenous Australians. Although possessing this power of veto, the traditional owners of Jabiluka instead chose to consent to the mine for the economic benefits and other protections negotiated in the 1982 Agreement.

The 1982 Agreement and the 1991 Transfer of Ownership were statutory agreements undertaken by the Northern Land Council on behalf of the traditional owners under the Act. The Australian Government considers, and all evidence provided indicates, that these agreements were reached through the informed consent and strong support of traditional owners at that time as required under the Act.

The development and finalisation of the 1982 Agreement involved a number of years of negotiations with traditional owners and included hundreds of meetings with these people and the other Aboriginal custodians in the Kakadu region who had an interest in the Jabiluka mine. In contrast to recent concerns regarding the Agreement process, none of the principals associated with the Agreement have disowned the Agreement or the process which led to its finalisation.

In 1982, following the signing of the Agreement, the Chairman of the Northern Land Council, Mr Gerry Blitner, said 'We believe it is a fair agreement for both parties'. Mr Blitner went on to say that 'Because of the fairness of the negotiations and the careful and delicate way in which they have been handled, and the long-lasting benefit to the Aboriginal people, the Northern Land Council is proud to have been a part of them'.

In 1991 Bill Neidjie, one of the traditional owners who was a principal to the 1982 Agreement, referred to the importance of the 1982 Agreement being kept because it was Bininj (Aboriginal) law that since the two old men who had agreed to the mine proceeding were now dead, their word was law and must be followed. Mr Neidjie and his family reiterated their support for the 1982 Agreement in a letter submitted to the 1998 meeting of the World Heritage Committee.

The Government notes that the parties to the 1982 and 1991 agreements have the right to legally challenge them if they consider that the terms of the agreements have not been satisfied or were entered into under duress. There has been no attempt to challenge them in law.

The Northern Land Council, an Aboriginal organisation which has the statutory role to undertake agreements in consultation with the traditional owners, maintains their

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61 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, Response by the Government of Australia to the UNESCO World Heritage Committee Regarding Kakadu National Park, April 1999, pp 87-89.
http://www.biodiversity.environment.gov.au/kakadu/jabiluka/response.html

commitment to the 1982 Agreement and the 1991 transfer of rights. The 1982 Agreement also has the ongoing support of senior and key members of the Kakadu Aboriginal community who would like to see regional development, including the Jabiluka mine, continue (under appropriate controls) to ensure a strong economic future for Aboriginal people in the region.

This position was further demonstrated during a visit of traditional owners to Canberra in 1991 in which they lobbied the Commonwealth Government in favour of the Jabiluka mine. The present senior traditional owner attended these meetings.

Should the legally binding agreements of 1982 and 1991 be dissolved outside the appropriate legal processes, the capacity of Aboriginal people to enter into future obligations that bind themselves and their successors would be damaged.

The consequences of such a precedent would result in large areas of Australia under Aboriginal ownership as possibly being regarded as "out of bounds" for any future negotiated agreements. This would deny Aboriginal people the right to enter into such agreements and thus limit their ability to maximise the returns from their unique property rights in relation to mineral development on their lands.

To set the 1982 agreement aside would risk:

- creating a precedent that would unjustly privilege one set of acquired rights over another, to the extent of allowing one party unilaterally to revoke a contract, freely given and accompanied by payments, at a later date;
- extending the ambit of the World Heritage Committee, unilaterally and in a manner that is not consistent with the Convention, into questions of mineral rights, property law and indigenous land ownership when the Convention itself expressly recognises that these are matters for the relevant State Party;
- injustice to the Company who have complied with every law, met every requirement, respected every notified Aboriginal site in managing the project; and
- pre-empting any domestic law processes to consider these issues.

Again, the Australian Government will be open and transparent on this issue, notifying the World Heritage Committee of any future potential changes to the status of property rights within the excluded mining lease areas, including notification of any relevant court actions and their outcomes.

GOVERNMENT SENATORS' REPORT: APPENDIX 3

EXCERPTS FROM THE GOVERNMENT'S RESPONSE TO THE WORLD HERITAGE COMMITTEE IN RELATION TO SACRED SITES[62]

The site of Boiwek has been described in reports by anthropologists on sacred sites in the Jabiluka region since 1975. Boiwek was listed as a 'djang' sacred site involving the ancestral dreaming figures the Knob-tailed Gecko ('Boiwek') and the Rainbow Serpent ('Almudj'). Anthropologists have documented these sites in conjunction with the Aboriginal traditional owners, including the father of the current senior traditional owner. Until 1997 the Australian Government was not aware of any claim that Boiwek was a Djang andjamun place that was especially dangerous or had specific restrictions on access by traditional owners and others.

From 1975 on, the site of Boiwek has been studied, photographed, mapped and protected. Several highly regarded anthropologists, working closely with traditional owners, including the father of the current senior traditional owner, have defined the site of Boiwek as a small, discrete soakage or swamp on the edge of the wetlands located to the west of the Jabiluka mine valley. It was a sacred, but not necessarily a dangerous site. There will be no damage or disturbance to this site. It is protected by conditions of approval.

This site is linked by a dreaming track to another separate site, known as Almudj, also protected and registered. The area between these sites (including the earth beneath this area) is now claimed by the senior traditional owner to be a sacred site. This claim was first made in 1997 and an expanded claim then made in 1999. It is this extended area which, it is claimed, will be threatened or disturbed.

The location and definition of the Boiwek site as a discrete swamp or soak on the edge of the wetlands were discussed and confirmed in:

- The 1977 Fox Inquiry;
- The claim book for the 1982 Alligator Rivers stage two land claim;
- The research necessary for registration on the National Estate for sites on the lease, including
- Boiwek and Almudj; and
- Decisions by traditional owners and the Northern Land Council on site permits for workers in the Jabiluka lease area.

When negotiating agreements for access and mining, the previous and current senior traditional owners consistently indicated to the owners of the Jabiluka Mineral Lease that the major site was confined to the area of the soak. This is reflected in the 1982 Agreement. As a member of the Bininj working committee the current senior traditional owner ratified in 1992 a map showing Boiwek as a small site at the soak. This map identified the parts of the lease where particular conditions would be attached to any permits issued to non-Aboriginal

62 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, Response by the Government of Australia to the UNESCO World Heritage Committee Regarding Kakadu National Park, April 1999, pp 63-73.
http://www.biodiversity.environment.gov.au/kakadu/jabiluka/response.html

people. The map was to be attached to any permits so permit holders would not inadvertently enter the area of any sacred sites.

It was not until 1997 that claims were made about a possible extended area for Boiwek, possibly covering the whole of Mine Valley. These revisions also upgraded the category of the site from sacred to sacred and dangerous, and involving sub-surface manifestations, perhaps defined by the ore body. The recent claims are not consistent with anthropological records or the previous statements and permissions given between 1976 and 1997 by traditional owners, including the current senior traditional owner. Those permissions were freely given and the Northern Land Council has confirmed the consultation process was adequate and effective.

Boiwek: Chronology of Site Recording

Phase One: Pre Land Rights

In 1975, George Chaloupka, a respected site recorder and rock art specialist working for the Northern Territory Museum and Dr Ian Keen, an Australian National University anthropologist, mapped the Mirrar Gunjeimbi clan estate with senior owners. With Toby Gangali, Jimmy Madjandi, Nipper Gabarrigi and George Namingum, Chaloupka located 35 places and depicted the routes taken by mythological creator beings.

The 1978 Chaloupka report describes Boiwek as a sacred site as a small, discrete soakage or swamp located to the west of the Jabiluka Mine Valley. The site lies immediately to the west of what is now the Oenpelli road. The report states that Boiwek is connected by a dreaming track to a sacred site to the east of the mine valley named ‘Almudj’. The site of Almudj relates to the Rainbow Serpent, a prominent Dreaming figure across large areas of Australia. A map in the report shows the line of the dreaming track. It travels the length of the Mine Valley, connects Boiwek and Almudj, and is confined to the area now covered by the Jabiluka Mineral Lease. The dreaming track has no connection with the World Heritage property.

Phase Two: Alligator Rivers Stage Two Land Claim

In 1980, Justice Toohey heard evidence in the Alligator Rivers Stage Two Land Claim. In 1981, Justice Toohey reported his findings on the Land Claim. While his report gives considerable attention to the proposed Jabiluka project (as it was planned then), including the reproduction of a model showing the effect of the project on the Jabiluka outlier and consideration of changes to the siting of facilities, and to the protection of sacred sites, no concerns over Boywek or Almudj were noted.

Although the [Pancontinental] proposal was much larger than the present initiative, the site does not appear to have been perceived by Justice Toohey, on the basis of evidence before him from traditional owners, to be under any threat.

Phase Three: The Agreement: 1982–1997

In the years leading up to 1982, the Northern Land Council carried out extensive consultation with traditional owners and affected Aboriginal communities over the Jabiluka project. Traditional owners were fully informed about the project by NLC staff and consultant anthropologists and had ample opportunity to express their views on sites that required protection and to have those views reflected in the final agreement.

In 1982, after this exhaustive consultation process, an agreement (the 1982 Agreement) was signed that stated, in part, "It was agreed by NLC on behalf of traditional Aboriginal owners that there are no sacred sites within the fenced area. Traditional Aboriginal owners have instructed NLC that they have no present intention of conferring upon any place the status of a sacred site within the Fenced Area during the term of this deed." The Agreement defines the extent of the operational area and refers to it as the 'Fenced Area'.

The 1982 Agreement also set out processes to be followed should sacred site issues arise, including a Bininj Working Committee, formed by traditional owners (including at the time Toby Gangele, Jacob Nayinggul and Big Bill Neidjie) on which the NLC has representation. The Committee was not asked to consider the status or boundaries of Boiwek, or to consider issues arising from the drilling program in Mine Valley (including the new extended site area) by Pancontinental.

After the 1982 Agreement, Pancontinental (and later ERA) sought and received a succession of approvals from the traditional owners through the NLC for drilling works in and around Mine Valley, as well as approval for the construction of the access road to the mine.

In August 1992, the Bininj Working Committee (including Yvonne Margarula, Joseph Bumarda, Mick Alderson, Liam Maher and Jonathan Nadji) discussed a "map to be attached to all permit applications to avoid confusion and to ensure people going into Area A near Boywek and other sacred sites are identified." The minutes indicated that all agreed to use a map showing Boywek as a small site at the spring and Almudj as a separate site. The Mine Valley was clear of sites.

Phase Four: The Jabiluka campaign 1997–1999

The next available information comes from a supplementary Northern Land Council (NLC) submission (in 1997) on the Draft EIS for the Jabiluka Project. The summary states that Boyweg is not 'djang' but is in fact recorded by the NLC as a dangerous sacred site (ie djang andjamun). The submission noted that 'there is potential for the sacred integrity of this site to be compromised if the [Jabiluka] development proceeds'. No information was provided on why the site was dangerous, the sources of the information, the apparent contradiction of the 1982 Agreement, inconsistencies with the extensive anthropological research, and the findings of Justice Toohey.

During 1997, ERA was presented with a series of maps depicting several boundaries for a new site of several square kilometres described as the Boyweg-Almudj site complex. These maps were understood to be based on anthropological research carried out by the NLC. One map had a kilometre wide corridor in which mining was banned, including an area directly over the mine site, which has been extensively and consistently cleared. Another boundary extends over most of the western lease area. These reports have not been supplied to the Australian Government.

In mid 1997, following the preparation of the Draft EIS for the Jabiluka Project, the traditional owners approached the NLC seeking registration of the site complex Boyweg-Almudj. A comprehensive anthropological investigation was carried out by the NLC which resulted in an enlarged area of influence being listed by the NLC for Boyweg. This area is many times larger than that of the immediate soakage or swamp, which in the past had been recorded as the Boyweg site. Much of the enlarged area extends into the Fenced Area and covers localities planned for the installation of mine facilities (particularly mine vents) by

ERA in the 1996 Draft EIS. The NLC advised ERA of the location of this area of influence and the area is shown in ERA's Public Environment Report. The company bans entry by mine staff into the area.

Recent Actions

At a meeting between the Minister for Environment and Heritage, on 9 February 1999, and the traditional owners of the Jabiluka Mineral Lease, the senior traditional owner made several statements concerning Boiwek. In brief these were:

- the site is three ancestors;
- the site has sub-surface manifestations; and
- any disturbance would destroy the community.

These are inconsistent with previous information provided by traditional owners, researched by anthropologists, and spelt out in legal agreements and site permits agreed by the current senior traditional owner as recently as 1992. Despite requests, no other evidence has yet been supplied by traditional owners to the Australian Government to substantiate the recent claims.

The Australian Government has not previously been provided with the information that the site is related to the two additional dreaming ancestors, that it has sub-surface manifestations and that its disturbance could destroy the community. In 1999, the official Mirarr web site displayed a map showing an even larger location for the boundaries of the site. Independent anthropological assessment requested by the Australian Government has confirmed that this information on boundaries and significance is not consistent with previous descriptions of the site.

The 1982 Agreement between the Northern Land Council (NLC) and Pancontinental states that sacred sites will be protected. The Agreement was signed under the *Aboriginal Land Rights (Northern Territory) Act 1976*, which includes provisions for the protection of sacred sites on Aboriginal Land.

The 1982 Agreement has provisions to protect sacred sites from mine construction. The provisions relate to the protection both of sacred sites known at the time of the 1982 Agreement and those places which may take on that status over time. The provisions relate especially to the protection of sacred sites within the area of the Mineral Lease covered by the operational area of the mine.

ERA states in the Supplement to its Interim Cultural Heritage Management Plan (October 1998) that they have not received complete advice as to the impact of the extended area of Boiwek (ie whether there would be any restrictions on operational or monitoring activity within it), however they have been requested not to carry out any work in the area other than to cross it via the existing track.

Under the 1998 Deed Poll (resulting from arbitration over changes to the Jabiluka development), ERA has agreed to a number of additional measures while awaiting confirmation and complete advice on the site boundary:

- to not, without the prior written approval of the NLC, enter upon or occupy any part of the extended area,
- to realign the Access Road to a route acceptable to the NLC, and

- to comply with the decisions and requirements of the Northern Territory Aboriginal Areas Protection Authority with respect to whether or not the vents which it has proposed to construct on the Boiwek–Almudj complex can be constructed within those sites.

ERA has listed in the Supplement the measures which it has undertaken to comply with each of these agreements, and also the recommendations and requirements set by Australian Ministers.

ERA states in the Supplement that it is very conscious of the importance of the Boiwek area of influence and, both in mine design and environmental practice, has sought to take account of the concerns of the landowners and custodians.

It would therefore seem that the locality covered by what is now the extended area of influence of Boiwek which lies within the Fenced Area (ie most of the extended area) was not of sufficient concern to the NLC at the time to be noted in the 1982 Agreement. This is despite there being an opportunity for such issues to be raised.

Under the recommendations and requirements listed by the Minister for the Environment and the Minister for Resources and Energy, ERA is required to take all reasonable steps to identify potential dewatering effects at the Boyweg site. It is also required to prevent contamination of groundwater and conduct baseline studies to establish the degree of connection between deep and shallow aquifers.

Due to access restrictions imposed by the traditional owners, ERA has relied on desktop modelling to address these requirements. The modelling suggests that there could be little or no connections between the deep and shallow aquifer and thus mine construction could expect to have little or no hydrological impact on the site.

CONCLUSION

The Jabiluka project has been subjected to three years of intensive, exhaustive open and transparent environmental impact assessment. There is an extensive and comprehensive program of environmental monitoring in place. This assessment process specifically included binding measures to ensure no damage to the World Heritage values of the Park, or to sacred sites in the project area.

The sacred and significant site protection measures available to traditional owners include both Commonwealth and Northern Territory legislation through which traditional owners could apply for sites to be protected. For over 20 years the site at Boiwek located at the soakage and Almudj on the outlier have been recognised and protected.

Recent claims that the site is larger, (covering a wider area) deeper, (extending lately to the ore body) and of greater significance (more ancestors, more dangerous) needs to be weighed against the historical facts that approvals for any mine project, including exploratory drilling needed to be provided by traditional owners before any work could commence. These permissions were given. The recent claims are not consistent with anthropological evidence or the previous statements and permissions given between 1976 and 1997 by traditional owners, including the current senior traditional owner. Those permissions were freely given and the Northern Land Council has confirmed that the consultation process was adequate and effective.