

CHAPTER 4

ENVIRONMENTAL IMPACT ASSESSMENT – THE ISSUES

The approvals process has been designed to facilitate development rather than examine the nature of that development in any adequate way.¹

4.1 This chapter discusses the environmental impact assessment process followed for the Jabiluka project, analysing problems and uncertainties that the Committee has identified in relation to radiological protection, run-off containment, tailings disposal, and in the identification and mitigation of negative social and cultural impacts on Aboriginal people. Further problems include a lack of scope for public comment and examination of the proposals, particularly by Aboriginal communities, and an inappropriate level of assessment of outstanding tailings disposal and mine design issues. The chapter argues that ministerial approvals for the mine's construction have been premature, and that administrative arrangements for the monitoring and regulation of uranium mining in Kakadu National Park are inadequate.

The Jabiluka EIA Process: Flaws and Uncertainties

Overview

4.2 Many submissions to the Committee expressed the view that a significant flaw in the EIA process was that the proponent of the mine developed the environmental impact statement or public environment report. For example, the Gundjehmi Aboriginal Corporation argued that both the EIS and PER were 'clearly mining advocacy documents which make little or no attempt to examine the impact of mining from an Aboriginal perspective ... The entire purpose of these documents is to achieve an economic objective for a publicly listed mining company.'²

4.3 They also argued that:

The EIS/PER process is one in which proponents develop a project advocacy document which plays down or deliberately ignores detrimental aspects of their proposal. The 'burden of proof' is then on others, including illiterate Traditional Aboriginal people, to show that the position advocated by the proponent is flawed. In this way the proponent sets the parameters of debate in a way which greatly disadvantages those affected by the proposal.³

4.4 No submissions made definite suggestions about how this arrangement should be reformed. In the Committee's view, there are both advantages and drawbacks in having the company develop the original EIS. It demonstrates the technological and

1 Environment Centre of the Northern Territory, Submission 38, p 1.

2 Gundjehmi Aboriginal Corporation, Submission 48, p 4.

3 Gundjehmi Aboriginal Corporation, Submission 48, p 12.

design competence of the company in relation to environmental protection, and provides an overview of the measures the company is willing to implement, which can then be evaluated by experts. However, if the proposed environmental protection measures are found wanting in substantial ways, the company's willingness and ability to comply with recommended modifications, particularly if they involve substantial project redesign or additional cost, may be the subject of some uncertainty. Similarly, the current regulatory regime under which these recommendations can be enforced is also inadequate.

4.5 A very real test of this process is the quality of the environmental impact assessments that ERA actually produced, and the extent of project modification that was subsequently required. The assessment of the Ranger Mill Alternative EIS resulted in approval being given subject to 77 conditions. The assessment of the Jabiluka Mill Alternative PER resulted in approval being ventured subject to a further 17 conditions, substantial project redesign and further assessment. The large number and scope of these conditions suggest that the EIS and PER were deficient in a range of crucial areas, and bring the adequacy of the proponent's role in the EIA process into question.

4.6 In the case of the Jabiluka Mill Alternative, which remains the only viable option given the Traditional Landowners' opposition to the RMA, the Government has required substantial project redesign and further assessment, and there remains considerable scientific uncertainty about whether it can be made environmentally acceptable and therefore approved. Meanwhile, mine construction costing hundreds of millions of dollars has already progressed. Given these problems, the Committee believes that there are grounds for further inquiry into the current EIA process, including the question of whether the proponent should prepare the EIS. These grounds are discussed further in the final part of this chapter.

4.7 In addition, a group of scientists from the Australian National University, in a 1998 submission to the World Heritage Committee, exposed serious deficiencies in both the EIS/PER and its assessment by the NT and the Commonwealth in relation to run-off and waste containment and groundwater hydrology and rainfall, and in assessing the impact of the mine in a Kakadu-wide context.⁴ Only after the report of the WHC Mission did the Supervising Scientist conduct further study and assessment which confirmed many of the ANU scientists' concerns, and make a further series of recommendations for project redesign.⁵ It remains unclear whether these will be incorporated as binding conditions on the mine's further development.

4.8 As indicated above, submissions also detailed a range of concerns about the EIA process, which are dealt with individually below.

4 Professor R J Wasson, Professor I White, Dr B Mackey and Mr M Fleming, *The Jabiluka Project: Environmental Issues that Threaten Kakadu National Park*, October 1998.

5 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999.

Run-off Containment and Management

4.9 Apart from the disposal of tailings, the linked problem of run-off from the mine site is one of the most serious potential threats to the surrounding environment. Water from tailings can leach radionuclides, sulfates and other contaminants into the ecosystem, and stored rock can cause acid mine drainage, threatening the survival of flora and fauna. The assessment and management of these threats requires attention to the design of the mine site, measures for water containment, recycling and channelling, and extensive knowledge of weather patterns such as rates of evaporation and levels of rainfall. In the case of a project which involves the surface storage of radioactive tailings, these rainfall and evaporation statistics must be known so that containment measures can be designed to preserve the surrounding environment for thousands of years.

4.10 In an effort to manage these threats, ERA devised a series of measures to contain run-off. These essentially involved the division of the mine-site into three zones:

- A 'catchment run-off zone' in which clean run-off will be diverted away from mine facilities to undisturbed catchment in the project area;
- A 'sediment control zone', in which turbid run-off from roads and surface facilities is treated before release to the catchment; and
- A 'total containment zone' (TCZ) in which all waters are directed to a retention pond and permanently segregated from the catchment. At Jabiluka this includes any area where rock containing more than 0.02% uranium is mined, stockpiled, stored or handled.⁶

4.11 The retention pond was designed for a theoretical extreme wet season that would occur once in ten thousand years. However dispute has arisen about the models that were used to calculate weather probabilities and evaporation rates, and which governed the design of containment facilities.

4.12 In 1998, a group of scientists from the Australian National University (ANU) made a submission to the World Heritage Committee questioning the assumptions used for these factors in the EIS and PER. They argued that:

- The design of water containment structures was flawed because of the use of a design method which was based on the assumption of statistical stationarity in rainfall, which over 10,000 years would be negated by greenhouse-driven climate change;
- Other inadequacies in calculations and modelling generated an underestimation of maximum run-off and flaws in the construction of surface retention ponds.

6 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, pp 40-41.

They stated that ‘the recent 1998 extreme rainfall event at Katherine, 100 kilometres south of Jabiluka, probably exceeded the calculated extreme rainfall at Jabiluka.

- Evaporation calculations, both from the retention pond and from the mine air stream, were seriously in error; all these factors would require new calculations and a redesign of the containment ponds.⁷

4.13 The World Heritage Committee considered these issues of such importance that it requested the Supervising Scientist to prepare a report responding to the concerns put by Professor Wasson and his colleagues. The Supervising Scientists report supported the analysis of the ANU scientists in the area of evaporation and rainfall. The report recommended that Bureau of Meteorology estimates and records from Oenpelli be used in the estimation of rainfall, and that either a humidifier system be installed in the mine to assist evaporation or the retention pond be expanded in area from 9 hectares to 13 hectares.⁸

4.14 The Committee concurs with the view of Professor Wasson and his colleagues, who praised the overall quality of the Supervising Scientist report but argued that these issues should have been resolved at the EIS stage, rather than be resolved after the mine’s approval, if at all.⁹

Tailings Disposal and Hydrology

4.15 Many submissions to the Committee, and both assessment reports on the Jabiluka Mill Alternative, by Environment Australia (EA) and the Northern Territory Department of Lands, Planning and Environment (NTDLPE), identified serious problems with ERA’s proposals for tailings management. In the Committee’s view, this in turn raises concerns about the precipitate approval of the project by the Minister and the inadequate level of further assessment of new proposals.

The Jabiluka Mill Alternative – ERA’s preferred option

4.16 One key recommendation, No 2, of the NTDLPE was that ERA should ‘demonstrate to the supervising authority that the cement paste technology and location of the tailings pits constitutes Best Practice Technology for the management of uranium tailings and potential leachate ... prior to the grant of an export licence’. Recommendation 9 also stated that research into the chemical stability and local

7 Professor R J Wasson, Professor I White, Dr B Mackey and Mr M Fleming, *The Jabiluka Project: Environmental Issues that Threaten Kakadu National Park*, October 1998, p 4.

8 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999.

9 *Proof Committee Hansard*, Canberra, 11 June 1999, p 25.

suitability of the process was to be presented 'to the supervising authority prior to approval of tailings disposal operations'.¹⁰

4.17 In its assessment report, Environment Australia also identified significant flaws and uncertainties in the PER. It identified the need for further hydro-geological investigation of the area proposed for the tailings pits, and sought further research to resolve scientific uncertainties about ERA's preferred method of tailings disposal. These latter concerns included:

- The newness of the proposed paste-fill technology, with ERA indicating there was no previous experience of its use with uranium or in tropical climates;
- Uncertainty as to how acid levels would affect the curing and integrity of cement paste fill, with further test work being required; and
- Problems with the design and location of the pits. ERA had no plans to line the pits (which raised concerns about possible seepage), while the proposed site of one pit was in an area with fractured and weathered material and possible faults and joint planes (which raised concerns about possible contamination of Swift Creek and groundwater within 10-50 years). EA stated that the PER had failed to consider that the fractures in the sandstone might form potential contaminant pathways.¹¹

4.18 EA also cast doubt on ERA's proposal to manage possible seepage in the below ground pits by blocking cracks in the pit walls with a cement-based grout: 'Whilst this might provide a suitable physical barrier in the short term, it would be relatively brittle and will be subject to chemical reactions potentially allowing mobilisations of contaminants.' In addition, EA expressed doubts about 'the long-term chemical integrity of the cement-hardened tailings mass' which was 'unknown'. This raised the danger of radionuclides being released into groundwater.¹²

4.19 Environment Australia thus argued for a 'precautionary approach' to be taken, and for 'the risk posed by these contaminants to be more adequately assessed before the Government commits to a decision.' This was important because 'once the project is under way corrective action may be difficult'. EA considered the paste fill technology to be 'somewhat experimental for the Kakadu region. We do not regard this as best practice nor believe that it should be trialed in such an environmentally significant area.' The report concluded that it was 'a matter of judgement as to the

10 Northern Territory Department of Lands, Planning and Environment, *Assessment Report 26 Jabiluka Mill Alternative*, July 1998, p 23; Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998.

11 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, pp 33-50.

12 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 69.

seriousness of environmental harm and degree of irreversibility of potential harm involved in allowing the JMA to proceed at this time.’¹³

4.20 In response to this uncertainty, the Minister for the Environment commissioned an independent review of the tailings management proposals from scientists at Unisearch Ltd. Their report argued that the proposed location of Pit No 2 was unsuitable and identified additional assessment and design work that was needed.

4.21 In particular, they found that the high concentrations of sulfate and magnesium in the tailings water might degrade the curing, strength and impermeability of the cement paste. Possible measures to avoid this included the investigation of alternative binding agents or, if that proved unsuccessful, the minimisation of the use of sulfate in ore processing and the removal of contaminants from the tailings water prior to paste formation and cement addition. They commented that both of these latter strategies ‘would impose significant cost and technological challenges’.¹⁴

4.22 Other problems with the tailings paste involved the ‘critical’ dewatering step prior to cement addition, which they thought could be prone to failure; and the proposed method of underwater emplacement of the cemented tailings mass which could ‘create problems with segregation of paste components and insufficient compression’. Because scientific literature was not definitive in relation to the likelihood of the paste immobilising contaminants, further mineralogical and microscopic investigations were required.¹⁵ Thus, it appears that significant scientific (and technological) uncertainties remain about the environmental safety of the cement paste technology when used with Jabiluka ore tailings.

4.23 The Unisearch team also identified significant uncertainties in regards to the proposed tailings pits. While they stated that the permeability of the Kombolgie sandstone in which the pits would be dug was ‘low to negligible’, they added that ‘extensive and persistent jointing, faulting and weathering has resulted in secondary porosity in the form of fissures which allow water to flow through the rock mass’. They stated that the location of Pit 1 was unsuitable because it was in a zone affected by faulting and deep weathering, would suffer pit slope stability problems and allow excessively high water flow past the tailings. While the location of Pit 2 might be suitable, they stated that ‘relatively high permeable rock can be expected in the upper 30m highly weathered zone and in fracture zones in the rock at depth’.¹⁶

13 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 70.

14 T. D. Waite, C. Dudgeon and R. Fell, *Review of Jabiluka Mine Alternative Tailings Management Proposal*, 19 August 1998, p 3.

15 T. D. Waite, C. Dudgeon and R. Fell, *Review of Jabiluka Mine Alternative Tailings Management Proposal*, 19 August 1998, p 3.

16 T. D. Waite, C. Dudgeon and R. Fell, *Review of Jabiluka Mine Alternative Tailings Management Proposal*, 19 August 1998, p 3.

4.24 They recommended further extensive drilling and testing and possible changes to the dimensions and shapes of the pits in order to avoid joints, faults and shear zones. They concluded that:

It is essential that a monitoring system and program commensurate with the level of assurance normally expected of the uranium industry be established as soon as possible to collect baseline data, assist with the design, construction and operation of tailings disposal pits and monitor developing conditions around the pits as they are filled, capped and subsequently left to interact with the groundwater system.¹⁷

4.25 At this time ERA also made reference to a third tailings management option which would involve returning all tailings paste underground to the mined-out underground stopes. This would in turn require the excavation of underground silos in unmineralised rock adjacent to the decline and the indefinite storage of that rock on the surface as artificial landforms.

The Jabiluka Mill Alternative – The Government’s preferred option

4.26 Reflecting the obvious scientific and technological uncertainties attending the 50-50 option, Senator Hill wrote to the Minister for Resources and Energy, saying that there was insufficient information to decide whether ERA’s preferred option for the JMA was environmentally acceptable, but that if 100 per cent of tailings were placed underground in the mine void, and a further series of recommendations were complied with, ‘the milling of uranium ore at Jabiluka will be environmentally acceptable’. The Minister wrote that Environment Australia had advised him that ‘this option would avoid the uncertainties associated with ERA’s preferred option’ and told Senator Parer that the JMA could proceed and export licences be granted if ERA prepared an amended proposal for the underground tailings disposal, and if that proposal was approved by the Supervising Scientist and the Supervising Authority (the Northern Territory Government).¹⁸

4.27 The Committee shares the concerns of many witnesses that this decision was premature, given that ERA had supplied virtually no detail to the Government about the 100 per cent option and that it had not been the subject of any further environmental impact assessment. Doubts remained about the cement paste process, and the hydrology of the rocks surrounding the mine stopes was unknown. Similarly, the placement of vast amounts of waste rock on the surface would create impacts which needed further assessment. The ANU scientists have also argued that the construction of artificial landforms with this rock could have substantial cultural effects, given that the mine is located in an area of enormous cultural significance.¹⁹

17 T. D. Waite, C. Dudgeon and R. Fell, *Review of Jabiluka Mine Alternative Tailings Management Proposal*, 19 August 1998, pp 3-4.

18 Senator Robert Hill, letter to Senator Warwick Parer, 25 August 1998, tabled correspondence.

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

4.28 The basis for the Minister's advice to Senator Parer appears to be the August 1998 ERA paper, *Jabiluka Mill Alternative: Synopsis of Key Issues and Processes*, which included a paragraph discussing the possibility of returning 100 per cent of tailings into the mine void, but indicated that *this would be an expensive and less desirable option*. No further information about this proposal, nor any technical detail, was included.²⁰ Apparently on the basis of this information, Environment Australia advised the Minister that this alternative 'would completely avoid the uncertainties associated with the previous proposal to use open cut pits in the Kombolgie sandstone.'²¹

4.29 In evidence to the Committee, Government witnesses insisted that the option of storing all tailings underground is the only one that ERA will pursue. Supervising Scientist Dr Arthur Johnston relied on this claim to dismiss the concerns expressed in 1998 by Professor Wasson and his ANU colleagues.²² Secretary of the Department of Environment and Heritage, Mr Roger Beale, also sought to discredit the ANU scientists by insisting that returning all tailings underground 'is, in fact, the only approved process. That is why the long-run climate change effects were not relevant'.²³ In response to questioning from the Committee, Dr Johnson reiterated his view:

we have not said that we are assuming that 100 per cent of tailings is going into the ground. We are saying that that is precisely what has been required by the Government in giving its approval, and therefore, yes, that is what has been approved, and that is what will happen.²⁴

4.30 Clearly, Dr Johnston and Mr Beale are confident that this option will be pursued. However the Committee does not share that confidence, having received evidence which raises serious doubts about ERA's intention to pursue this option. It seems clear that the Company's preferred options remain firstly, the Ranger Mill Alternative and secondly, the earlier JMA option using surface pits.²⁵ The Committee's visit to the mine on 15 June 1999 also confirmed that the constructed layout of the mine portal, rock stockpiles, storage tanks and retention pond exactly conforms with the design of the Ranger Mill Alternative as presented in the EIS. A great deal of reconstruction of the area will have to occur if the JMA has to proceed.²⁶

20 Energy Resources of Australia, *Jabiluka Mill Alternative: Synopsis of Key Issues and Processes*, August 1998.

21 Minute from Assistant Secretary, Environment Assessment Branch, to Minister, 20 August 1998.

22 *Proof Committee Hansard*, Canberra, 11 June 1999, p 3.

23 *Proof Committee Hansard*, Canberra, 11 June 1999, p 37.

24 *Proof Committee Hansard*, Canberra, 11 June 1999, p 5.

25 Committee Notes, Meeting with ERA executives at Ranger, 15 June 1999.

26 See the map on p 6.3 of Kinhill in association with ERA, *The Jabiluka Mill Alternative Public Environment Report*.

4.31 The possibility of resubmitting the preferred JMA option for approval was specifically left open by Senator Parer. On 27 August 1998, he wrote to ERA Chief Executive Philip Shirvington indicating conditional approval for the Jabiluka Mill Alternative, subject to the conditions recommended by Senator Hill. That is, approval would be given for the final option of complete disposal of tailings into the mined-out shafts or, if ERA wished to continue with the 50-50 preferred option, it could submit a new assessment to the Environment Minister for consideration, with guidelines to be developed in consultation with the Commonwealth and NT, to address the identified inadequacies.²⁷ He commented that:

I note that the Minister for the Environment believes, nevertheless, that there is every prospect that further assessment can identify design amendments to your preferred option which ensures tailings can be adequately managed and disposed of in this way.²⁸

4.32 The Committee possesses a copy of the advice provided to the Environment Minister in relation to these options, and has formed the view that his confidence in a successful redesign of the 50-50 proposal was premature. Environment Australia told the Minister that ERA had presented three possible revised options which could be assessed in a 'fallback' approach:

- Proving up an unlined pit option as proposed in the PER;
- A pit option with clay lining and other barriers to be determined; and
- 100 per cent of the tailings going back into the ground ... with a new barren waste rock strategy to be developed.²⁹

4.33 The EA minute continues by saying that the 100 per cent underground option would 'be an expensive option and there would still be a small risk to the surrounding environment related mainly to the disposal of the excavated material and its subsequent rehabilitation. However, it appears superior to in-ground pit disposal in terms of isolation of radionuclides.'³⁰ These unknowns did not prevent EA from suggesting that this proposal 'would completely avoid the uncertainties associated with the previous proposal'.³¹ The Committee believes that the Department's confidence in an option which had been the subject of no scientific assessment was premature.

4.34 At no point did EA suggest that successfully redesigning the 50-50 option (or a 70 per cent underground option also put forward by ERA) would be easy; they continued to suggest that if ERA wanted to pursue either of these options the concerns

27 Letter from Senator Warwick Parer to ERA, 27 August 1998, tabled correspondence.

28 Letter from Senator Warwick Parer to ERA, 27 August 1998, tabled correspondence.

29 Minute from Assistant Secretary, Environment Assessment Branch, to Minister, 20 August 1998, p 4.

30 Minute from Assistant Secretary, Environment Assessment Branch, to Minister, 20 August 1998, pp 4-5.

31 Minute from Assistant Secretary, Environment Assessment Branch, to Minister, 20 August 1998, p 2.

of EA and the Unisearch scientists would have to be addressed and that: ‘should the additional studies and investigations fail to define a technology which, in the opinion of the Supervising Scientist, is likely to adequately protect the environment, then ERA must commit to 100 per cent disposal of tailings back underground in the mine voids’.³²

4.35 The Committee is concerned that this revised 50-50 option, when resubmitted, will be subject to the minimum level of assessment allowed under the EPIP Act or its equivalent; there is to be no higher level environmental impact assessment or public consultation. More detailed consideration of this decision-making process is continued later in this chapter (4.147-4.181).

4.36 The Supervising Scientist’s report to the World Heritage Committee did make further assessment of the likely movement of tailings contaminants from the mine voids using existing hydro-geological data. The OSS recommended that new silos be dug in the Kombolgie sandstone to the east of the ore body and found that the quality of groundwaters in the vicinity of the Jabiluka ore body was high, indicating that ‘there is very little movement of radionuclides into the groundwater aquifer from the orebody’. Modelling of the dispersion of contaminants in groundwater indicated that the maximum distance uranium could move east under the most extreme conditions was 300 metres in 1,000 years, but was more likely to be 50 metres. Movement of solutes west through the schists would be faster, some 500 metres in 200 years.³³

4.37 However, this was of little concern given the presence of clays underneath the Magela floodplain which would limit upward migration of groundwater, and the continual dilution of solutes to levels less than naturally occurring concentrations in the region. The OSS concluded that: ‘the wetlands of Kakadu will not be harmed as a result of the dispersal of tailings constituents in groundwater,’ a conclusion which the ANU scientists accepted. However, the OSS did state that a full risk assessment has not been carried out and would require further analysis and hydro-geological data collection.³⁴

4.38 Despite endorsing the OSS analysis, the ANU scientists expressed a range of other concerns about both JMA options. Professor Wasson expressed doubts about the likelihood of ERA implementing the 100 per cent underground option. He stated that he and his colleagues continued to disagree with the OSS about:

32 Minute from Assistant Secretary, Environment Assessment Branch, to Minister, 20 August 1998, p 3.

33 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 11.

34 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 11.

whether or not above-ground storage of tailings is likely ... We remain sceptical of blanket promises. This country is littered with abandoned mine sites. This is a World Heritage property, I repeat, not just any old mine.³⁵

4.39 Their submission also drew the attention of the Committee to the possibility that:

in the future, this approved plan may be changed. Over the 30 year lifespan of the mine there will be ample opportunity for new plans to be approved, including the storage of tailings on the surface. If this possibility can be ruled out with complete confidence ... then our concerns about the calculation of risk for the stability of surface storages vanish. If the possibility of a renegotiated disposal plan cannot be ruled out, then we remain concerned that the actual extremes of rainfall and run-off may substantially differ from those modelled and calculated.³⁶

4.40 The ANU's Professor Ian White also cited the failure of the BHP mine at Beenup where the cost and technological challenge of dewatering tailings (as ERA proposes in forming the cement paste) caused the mine to be abandoned. Professor Wasson stated that the uncertainties identified in regards to the 50-50 option suggested that it could not be successfully redesigned:

Storing tailings at the surface is really not an environmentally sound option.³⁷

4.41 The ANU scientists' submission also expressed dissatisfaction with the lack of public scrutiny of the proposal, associated with the 100 per cent underground option, to excavate inert rock from the mass adjacent to the decline to create room for the extra tailings: 'Again the Supervising Scientist asks us to trust the details of this procedure, the details of which remain unclear.'³⁸

Radiological Protection

4.42 Radiological protection challenges arise in two main areas:

- The exposure of mine workers to radiation, particularly given that the operating environment is underground and that much of the uranium ore is of a very high grade, from 0.2 per cent U_3O_8 to 0.65 per cent;
- The possible exposure of nearby populations, particularly the Aboriginal settlement at Mudginberri, to airborne radiation.

35 *Proof Committee Hansard*, Canberra, 11 June 1999, p 25.

36 Professor R. Wasson, Professor I. White, Dr B. Mackey, Mr P. Fleming, Submission 50, pp 2-3.

37 *Proof Committee Hansard*, Canberra, 11 June 1999, pp 26-27.

38 Professor R. Wasson, Professor I. White, Dr B. Mackey, Mr P. Fleming, Submission 50, p 3.

4.43 Environment Australia appeared to endorse the radiation limits used by ERA, which accorded with the then published limits from the International Commission on Radiological Protection (ICRP). These were:

- Doses to designated workers to be limited to 100 millisieverts (mSv) in a 5-year period, which is an average of 20 mSv per annum, with a subsidiary limit of 50 mSv in any one year;
- Doses to members of the public to be limited to less than 1 mSv per annum during mine operation and after its closure.

4.44 The EIS and the PER modelled the dose rates predicted in the mine and public environments and outlined a range of measures to protect workers and minimise levels. These models and techniques were reviewed by the Supervising Scientist, Australian Radiation Laboratories (ARL) and by other specialist consultants.

4.45 The evaluations conducted by Environment Australia appear to demonstrate that the modelling and measures initially outlined by ERA were inadequate. Its EIS and PER assessment reports include very extensive and detailed recommendations in relation to the collection of further baseline data about pre-mining background levels, the monitoring of radiation levels and forms in the mine workings, new modelling, and the redesign and reassessment of shielding equipment for workers and of the mine ventilation system.³⁹

4.46 Concerns about the ventilation system and its assumptions were confirmed by analysis of Dr M J Howes, an internationally recognised expert in uranium mine ventilation. The Environment Australia assessment said that workers would be exposed to doses of 9.4 mSv to 14 mSv per annum, which approach legislated maximum levels, and remarked that it was essential that underground workers be protected. According to Environment Australia, comparison with the underground uranium mine currently operating at Olympic Dam:

indicates that the dose estimated from modelling is less than might be expected from actual operation ... given that the largest predicted annual radiation doses approach the annual dose limit, it is essential that an exhaustive radiation protection program be planned and implemented to verify the methodologies employed to estimate effective doses to mine workers, and to accurately quantify the radiation doses incurred as a result of each work function at the mine.⁴⁰

4.47 Dr Alan Roberts of Monash University stated in his submission that the richness of the uranium ore at Jabiluka was of particular concern. It contains about six times more uranium than the ore from Olympic Dam; in other words, there is six times

39 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, pp 91-2.

40 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 91.

the amount of radiation source for each ton of ore mined, which could produce a greatly increased dose for workers. Dr Roberts said that while the EIS had dealt with this issue, it did not do so in sufficient detail and left important questions unanswered.⁴¹

4.48 Also of serious concern to the Committee are the predicted effects of airborne radiation (through the inhalation of radon progeny) on the surrounding public area – that is, on Mirrar lands. Environment Australia's assessment stated that, depending on the calculations used, exposure rates at Mudginberri could vary from 0.12 mSv pa (12 per cent of the current ICRP dose limit) to as high as 49 per cent of the dose limit. Environment Australia commented that:

It should be noted that, even if these dose rates at Mudginberri are below the public dose limit, there will be regions in the vicinity of Jabiluka at which restrictions on permanent occupancy might have to be placed (e.g. Ja Ja) – that is, the annual radiation dose to occupants in some areas near to the mine may be over the 1 mSv limit.

The potential for members of the public to be exposed to levels above the recommended dose is viewed as an unacceptable impact and would be of particular concern to Traditional Owners.⁴²

4.49 When the PER assessment report was prepared, these uncertainties still remained. The Office of the Supervising Scientist and the ARL both stated that while they did not expect doses to people at Mudginberri to exceed the legal limits, they had significant questions about the modelling used by ERA to predict doses, which they thought produced 'unexpectedly low dose rates'. Environment Australia thus recommended further research and monitoring of airborne radiation, with the results to be submitted to the Supervising Scientist and the NT *prior* to the mining and processing of ore.⁴³

4.50 Many submissions to the Committee argued that there is no actual 'safe' level of radiation exposure, and that dose levels as set by bodies like the ICRP are a trade-off between possible casualty rates and the perceived economic benefits of mining employment and access to the products of the nuclear industry. The Jabiluka Action Group (QLD) submitted that the ICRP has steadily been revising downwards safe permitted levels of exposure to radiation as more information emerges over time. It cited a 1997 article in the *New Scientist* in which:

41 Dr Alan Roberts, Submission 19, p 1.

42 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 95.

43 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 65.

The ICRP now admits there is no safe lower limit of radiation exposure. Low levels of exposure over a period of time are as dangerous to health as high dose levels.⁴⁴

4.51 The Jabiluka Action Group also told the Committee that the ICRP revised its limits for exposures to uranium workers from 50 mSv pa to the current 20 mSv pa in 1990. Other countries have far lower dose limits for the public than the current ICRP and Australian level of 1 mSv per year. The US limit is 0.25 mSv, Germany 0.30 mSv and the UK 0.30 mSv.⁴⁵ The Committee notes that Environment Australia's EIS assessment speculated that annual doses to the residents of Mudginberri could be between 0.25 and 0.49 mSv per annum, well over the overseas limits.⁴⁶ The Australian Conservation Foundation put the question as to 'how, over time, the [Jabiluka] project would be able to come in under what are bound to be an ever increasing tightening of ICRP standards'.⁴⁷

4.52 The Committee has three major concerns about radiological protection at Jabiluka:

- Environment Australia's analysis indicates that significant uncertainties remained at the time of the EIS about the modelling used to predict radiation doses on the mine workers and that the design of crucial control measures, such as the mine ventilation system, was unresolved. These uncertainties combine, over time, with the likelihood of ICRP limits falling. In the Committee's view, this raises serious questions about the ministerial approvals given to the Ranger Mill Alternative in June 1998.
- The regulatory regime relies on the Northern Territory Government to enforce Government recommendations about radiological monitoring and protection, given that they must be completed *before mining begins*. While the Supervising Scientist has the skills to assess the studies it is unclear whether further scientific peer review would be involved. Should the Northern Territory's oversight be inadequate, the Commonwealth has no direct power to intervene until ERA applies for an export licence for its first yellowcake shipments. The Committee heard serious concerns about the regulatory record of the NT, which are detailed below (4.125-4.134).
- The potential for public access to areas around the mine to be banned is of grave concern. If ICRP recommendations about permissible levels fall further this is more likely to occur. This possibility needs to be considered in relation to the very serious potential social and cultural impacts of the mine on Aboriginal

44 The Jabiluka Action Group (QLD), Submission 46, p 13.

45 The Jabiluka Action Group (QLD), Submission 46, p 13.

46 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 95.

47 Mr Dave Sweeney, Australian Conservation Foundation, *Proof Committee Hansard*, Canberra, 11 June 1999, p 95.

people, whose culture and tradition may suffer if they are discouraged, through anxiety or regulation, from visiting and using their lands for traditional purposes. This concern, in its broader context, is discussed further below (4.60-4.115). The Committee feels that these concerns were not given adequate consideration by the Government in its decision-making, and should have contributed to a decision to delay, rather than approve, the mine's construction.

The Scope for Public and Aboriginal Input to the EIA Process

4.53 The Committee acknowledges that formal requirements for public comment and participation in the EIA process have generally been met. However, submissions raised substantial concerns with some elements of the process. Of most concern to the Committee was the lack of scope for Aboriginal people to understand and comment on the assessments.

4.54 Concerns were raised that opportunities for public comment on the Jabiluka Mill Alternative were compromised by the level of assessment of the PER. According to Environment Australia, a majority of submissions expressed unhappiness with the level of the assessment. These submissions argued that 'for a project of this nature with potential impacts on an area of international significance, at least an EIS with its enhanced opportunities for public input was warranted'. A substantial number of others argued that the assessment of the JMA warranted a Commission of Inquiry. A great majority, including ATSIC and the NLC, also argued that the period of public consultation (four weeks) was insufficient, and did not allow for 'appropriate consultation with key indigenous stakeholders'.⁴⁸

4.55 The level of assessment required by the Minister for Resources and Energy of the final proposal for the disposal of tailings under the Jabiluka Mill Alternative has also been raised in many submissions. Further assessment of the proposal for the disposal of all tailings underground, which involves the excavation of massive amounts of waste rock which will need to be permanently stored on the surface, is limited to the Supervising Scientist, who will report to the Commonwealth and the Northern Territory. There will be no public consideration of this proposal. Similarly, the further assessment of ERA's preferred Jabiluka Mill Alternative option, which involves the partial disposal of tailings in surface pits and about which there remains significant scientific uncertainty, will receive no public consideration.

4.56 The Committee believes that this level of assessment is inadequate, and also that at the very least the proposals should be subject to a new PER and be open to scientific peer review.

4.57 In its submission to the EIS the Northern Land Council stated that it had made its comments under protest because of the inadequate consideration of Aboriginal concerns. The NLC's concerns took two forms:

48 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 11.

- The Mirrar had refused to participate in consultations about the mine until their concerns about the unfairness of the 1982 Agreement and the company's refusal to reopen negotiations were addressed; and
- The EIS guidelines were flawed in that they did not require the company to produce the EIS in a format accessible to the Aboriginal community. The documents were neither produced in the Gundjehmi language nor plain English. ERA released a plain English version, 'The Jabiluka Project – The Project in Pictures,' which was only made available to the community a month before comment was due. The NLC requested an audio tape of the plain English version, which was not supplied before comments were due.⁴⁹

4.58 The Gundjehmi Corporation argued that the entire approach of the EIS and PER to Aboriginal socio-cultural issues was flawed because, as a process, it entrenched the original denial of the rights of Traditional Owners to make fundamental decisions about their land. They expressed concern that 'there were no Aboriginal contributors to either the EIS or PER', and argued that:

The entire purpose of the documents is to achieve an economic objective for a publicly listed mining company. This objective is to develop a uranium mine on Mirrar land. The Mirrar are fundamentally opposed to this objective. To this end, the EIS and PER processes have disempowered the Mirrar from the outset ... as soon as the Mirrar engage in the process of correcting or providing new information to the EIS or PER the Mirrar are effectively legitimising and contributing to this appropriation.

The EIS and PER processes are not about *whether* the project should proceed but *how* it should proceed.⁵⁰

4.59 The Committee acknowledges and sympathises with these concerns. It is a mark of the way in which the basic conflict with the Mirrar over the mining of their land has coloured the whole Jabiluka assessment process. Bearing these concerns in mind, the Committee has nonetheless sought to conduct a careful assessment of the totality of the EIA process in relation to the project. It is of major concern to the Committee that an appearance that the process has functioned not to decide whether the project should proceed but how it should proceed, has been created. This is a concern that relates to issues considered throughout this chapter, and has some legitimacy. The process of Government decision-making which has provoked this concern is discussed further later in this chapter (4.147-4.181).

49 Northern Land Council, *Comments on the Environmental Impact Statement for the Jabiluka Uranium Mine Proposal*, p 1.

50 Gundjehmi Corporation, Submission 48, p 5.

Cultural Heritage and Sacred Sites

4.60 Requirements to assess and report on the potential cultural impacts of the Jabiluka mine for Aboriginal communities were given high priority in the draft guidelines for both the EIS and PER. The EIS guidelines required ERA to develop baseline descriptions of Aboriginal land uses, food gathering and ceremonies, of sites of significance to Aboriginal population and culture, and of Kakadu as a cultural landscape.⁵¹ The PER guidelines involved even more detailed requirements to assess the impacts of the JMA on:

- Traditional Owners' use of the land after the proposed mill has been completed;
- The social and cultural lifestyle of Traditional Owners and the broader Aboriginal community, including customary practices, resource sharing and food gathering; and
- Impacts of milling activity upon Aboriginal values of the region, sites of significance and Aboriginal culture (including the views of Traditional Owners on impacts).⁵²

4.61 In the two years since the EIS was prepared, attention has fallen on the requirement of ERA to develop a comprehensive cultural heritage management plan in consultation with Traditional Owners, and on disputes about how the extraction of ore will affect the Boiwek-Almudj sacred site complex (which the Traditional Owners believe to overlay and include the orebody).⁵³ The Australian Government and ERA are disputing the claims of the Senior Traditional Owner about the extent and significance of the site, and ERA has refused to cease construction of the mine in order to complete the cultural heritage management plan. These disputes have become particularly bitter and have soured relations between the Mirrar and ERA.

4.62 The EIS identified a need for further archaeological surveys of the project area and conceded that the project layout may need to be reviewed in the light of those studies. Environment Australia's assessment report on the EIS specifically recommended that:

ERA must develop a cultural heritage management plan in consultation with Traditional Owners, and Environment Australia and relevant NT authorities, prior to project construction commencing.⁵⁴

51 Environment Protection Agency and NT Department of Lands, Planning and Environment, *Jabiluka: Draft Guidelines for an Environmental Impact Statement on the proposed development of Jabiluka No 2 uranium mine*, June 1996, p 8.

52 Environment Protection Agency and NT Department of Lands, Planning and Environment, *Guidelines for a Public Environment Report on the proposed development of the Jabiluka Mill Alternative at the Jabiluka No 2 uranium mine*, June 1998, p 7.

53 Spellings of Boiwek vary considerably from source to source, as a result of differing transcriptions from an oral culture.

54 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 112.

4.63 The Northern Land Council confirmed to the Committee that it received an interim cultural heritage management plan six months after construction had started. A completed plan, it told the Committee, 'would have served to clarify a number of issues, including the extent of sites in the lease area ahead of development being undertaken'.⁵⁵

4.64 The Committee views the fact that the cultural heritage management plan has not been completed with great concern. It believes that the Government's approval for construction of elements 'common' to the Ranger Mill Alternative and Jabiluka Mill Alternative was premature, given that the plan had not been completed. Concerned about the damage construction could do to the Boiwek-Almudj sites, the Mirrar have refused to cooperate with the development of the plan until construction was suspended for a period of between four and six months.⁵⁶ Such a suspension could have allowed for the credible cultural mapping of the area in consultation with Traditional Owners.

4.65 The Environment Australia assessment report also identified the Boiwek (knob-tailed gecko) site, a 'soak' on the edge of the Magela wetlands across the Oenpelli road, as 'of particular concern and was raised as such in a submission by the NLC. This site would appear to be a "danger" site which could be compromised if development proceeds'. The assessment report felt that the proposal to draw groundwater for mine workings may affect the site, and recommended that if a program to monitor its impact could not be established, alternative water sources would need to be sought.⁵⁷

4.66 Both the EIS and the assessment report failed to document the further information which was now being revealed about the site by the Senior Traditional Owner and other custodians. Presumably under the pressure of the mine's imminent construction, they had revealed that the site was linked easterly through the mine valley to the Almudj (Dreaming Serpent) site by a dreaming track to form a single complex. This site was *djang andjamun* (dangerous and restricted) and had sub-surface manifestations.

4.67 In its response to the Report of the World Heritage Committee mission, the Australian Government argued that it was not aware of claims that the Boiwek site had an 'extended area' or underground manifestations. It stated that: 'The recent claims are not consistent with anthropological records or the previous statements and permissions given between 1976 and 1997 by Traditional Owners'. These instances were said to include the 1982 Jabiluka agreement, the 1977 Fox Inquiry, the claim book for the Stage II Alligators Rivers stage two land claim, and research for the

55 Mr Norman Fry and Mr Jeff Stead, Northern Land Council, *Proof Committee Hansard*, Darwin, 16 June 1999, pp 133, 140.

56 'Questions raised about ERA eligibility to export uranium,' ABC News, 21 May 1999.

57 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 113.

registration of sites on the National Estate. In all of these instances, the Government claims, Boiwek was defined as a small discrete soakage or swamp and was not classified as ‘dangerous’.⁵⁸

4.68 Professor John Mulvaney, an eminent archaeologist and former Australian Heritage Commissioner, told the Committee that the site complex had, in fact, been identified as early as 1978 in the course of a study by George Chaloupka and other anthropologists.⁵⁹ Chaloupka’s report includes extracts from a survey of the Jabiluka area that was undertaken by Dr Ian Keen, who recorded the Boiwek and Almudj sites and the dreaming track extending between them. His notes state that at Almudj was a series of paintings, including a design of the Buyweg figure: ‘Almudj is said to have made the place and travelled to Buyweg where it made permanent freshwater springs’. He quotes the traditional custodian who accompanied him as saying:

That one went right through to Buyweg – where that Buyweg are – that’s dreaming. I don’t reckon – spring water is that bit of ground there. Buyweg make it that way.⁶⁰

4.69 Intimating the underground manifestations denied by the Government, Keen then noted:

These springs associated with Buyweg and Almudj are located in the Pancontinental deposits, and test drillings have been made immediately beside it.⁶¹

4.70 Chaloupka’s notes accompanying a photograph of Boiwek add further weight to the Mirrar Senior Traditional Owner’s account of the site. He writes:

Plate 10. This is Bojweg Bagolu, *djang*, a dreaming site of *Bojweg*, a knob-tailed gecko ... an actual animal, but also a dangerous mythological being. The soak never dries up, even when during extreme drought the wetlands dry out. This is believed to be because Almudj, the Rainbow Snake, is below the ground here.⁶²

4.71 Legalists might point to the reference to the site as *djang*, which indicates that it is sacred, rather than to a specific reference to it as *djang andjamun*, or sacred and dangerous. However, there is also reference to the Bojweg creature as ‘a dangerous mythological being’ and that the Almudj figure exists below ground. Keen’s notes

58 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, p 64.

59 *Proof Committee Hansard*, Canberra, 11 June 1999, p 61.

60 Ian Keen, *Sites of Significance in the vicinity of the proposed Arnhem highway extension: A report to the Northern Land Council*, ANU, 22 August 1978, pp 5-6.

61 Ian Keen, *Sites of Significance in the vicinity of the proposed Arnhem highway extension: A report to the Northern Land Council*, ANU, 22 August 1978, pp 5-6.

62 George Chaloupka, *Djawumbu-Madjawarnja Site Complex*, October 1978.

also suggest that the Al mudj figure, which created and perpetuates the springs, exists in a location generally coterminous with the ore body.

4.72 This statement alone, from one of the most widely respected anthropologists to have worked in the region, should be sufficient to dispel any doubt about the nature of the site and to cause the Government to reassess its approach to the issue and to the current mine proposal. The Committee believes that this record strongly suggests that the current Senior Traditional Owner, Yvonne Margarula, is not engaging in wilful fabrication in her recent accounts of the site and its location, as the Government appears to be suggesting. In evidence to the Committee she stated that:

What I will tell you today will be the same thing which I have been talking about for years. I want to assure you that when we talk about these things, we don't make them up; we don't change them from time to time to suit the occasion. It is something we always talk about in the same way. When Aboriginal people talk about sacred sites, it is a historical thing which goes back into our ancestral past ...

this particular site we are talking about here [Boiwek-Al mudj] is a dangerous site. We just don't go there and sing out any old way or call out any old thing or behave in any sort of informal fashion ...

those of us today know and understand what our ancestors explained to us. We hold that knowledge and know it to be true.⁶³

4.73 Professor Mulvaney told the Committee that it was not unusual for new details about sacred sites to emerge over time. In fact, he argued, it was quite normal and in accordance with the rules in Aboriginal law which govern the transmission and revelation of secret knowledge:

It is essential to acknowledge that Aboriginal practice and European legal understanding differ. While company officials might assume that all details have been revealed [to Pancontinental for the purposes of the 1982 Jabiluka Agreement], elders would not have felt any obligation to disclose all esoteric details. Indeed, the reverse is the case. In Aboriginal law only appropriate persons may be told details, and those are revealed progressively through their life cycles at specified rituals. It should neither surprise nor anger industry and government when new attributions emerge in the face of dire actions which force revelations.

Access to stories by non-indigenous people is severely restricted and may become public only when every other course of action proves impossible.⁶⁴

4.74 In defence of its argument about the site, the Government has cited the actions of the Northern Territory's Aboriginal Areas Protection Authority (AAPA), which

63 *Proof Committee Proof Committee Hansard*, Jabiru, 15 June 1999, p 15.

64 Professor John Mulvaney, Submission 30, p 3.

declined to register the site formally after an application was made by the Northern Land Council in 1997. The AAPA's Chief Executive Officer, Dr David Ritchie, told the Committee that it declined to register the site because:

What emerged ... was that, while there is no doubt that Boyweg and Al mudj are very significant sites, and clearly sacred sites within the meaning of the Land Rights Act and hence the Sacred Sites Act, there was considerable disagreement – and by considerable I mean a large range of views – over how big the sites are, what features comprise and the stories associated with, those particular sites ... So the authority resolved that it could not enter the Boyweg-Al mudj site as requested on the register of sacred sites; but it made the point – this is again a legal point – that it in no way was a statement that the area was not a sacred site.⁶⁵

4.75 In the Committee's view this last statement discredits the Government's attempt to use the AAPA decision to defend its position. Dr Ritchie also told the Committee that similar levels of uncertainty, this time working in the opposite direction, influenced its decision at the same time to refuse an application by ERA for an authority certificate to carry out works in the mine valley:

The Sacred Sites Act says that the Authority, before issuing an approval, must be satisfied that the proposed works do not pose a substantial threat of damage to interference with sites on or in the vicinity of the application – so again, there was substantial doubt.⁶⁶

4.76 It appears to the Committee that Ms Margarula's claims about Boiwek-Al mudj were sufficiently credible for the AAPA to refuse an Authority to ERA to undertake *underground* works in the mine valley, which included the construction of ventilation shafts from the mine tunnels. However, the disagreement among custodians did not provide enough legal certainty for the site to be registered.

4.77 Of some interest to the Committee is the test the AAPA uses to evaluate the knowledge and standing of custodians it consults. If Professor Mulvaney's evidence about the rules governing what custodians may know and reveal is to be taken seriously, it is possible that some were not in possession of the full 'story' about the sites. The Gundjehmi Corporation states that in 1980 the then Senior Traditional Owner identified Mr Jimmy WogWog as the elder responsible for sacred sites in the area. On a survey with George Chaloupka in 1992, he had identified the Boiwek-Al mudj area as a 'dangerous proximity'. They also claim that the evidence of five senior Mirrar custodians to the AAPA was contradicted 'by a person not considered to be a custodian for the Jabiluka land'.⁶⁷ Unfortunately, the Committee was unable to pursue these points with Dr Ritchie.

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

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

67 *Submission from the Mirrar people to the UNESCO World Heritage Committee ICCROM and ICOMOS in relation to the Australian Government's Report, 'Australia's Kakadu'*, pp 22-25.

4.78 The Gundjehmi Corporation has assembled a history of the recording of sacred sites in the Jabiluka area which clarifies many of the statements which the Government has made about existing site records. It makes the following points:

- It is true that George Chaloupka's research for the Fox Inquiry identified only one site in the entire Jabiluka project area. However Chaloupka attributes this to the fact that the Fox Inquiry was focussed on Ranger which threatened sites in the southern part of Mirrar land.
- In 1976 Chaloupka did further cultural mapping with two custodians for an application to have the Djawumbu-Madjawarnja site complex listed on the National Estate. The custodians referred to the Boiwek-Bagaloi soak and the Almudj rock art site as sacred and dangerous places, along with the dreaming track which connected them. Chaloupka included the Boiwek-Almudj site complex in the listing application, but after representations from the mining company the Heritage Commission excised the extent of Jabiluka mining activity from the area to be protected, which was listed in 1980.
- In 1978 Chaloupka made representations to the Australian Government that Pancontinental's claim – in an EIS for the proposed Arnhem highway extension – that there were no known sites in the area of the proposed road was misleading. Dr Keen's studies at this time, referred to above (4.68), specifically refuted the company's claims.
- Dr Keen included the full reference to the Boiwek-Almudj complex and dreaming track in the Alligator Rivers Stage II land claim, in explicit contradiction of the Australian Government's recent claims. The hearings however incorrectly recorded the sites, noting that Boiwek stood alone and recording a non-existent site called 'Berewuk'.
- In 1982, following serious desecration of sacred sites attributed to Pancontinental personnel, including the theft of human remains, local Aboriginal people requested at 18 separate meetings that sacred sites *not* be identified in the 1982 Jabiluka agreement. Despite this, and the fact that no project-specific anthropological work was carried out during the negotiations, a highly erroneous sites map appeared in the Agreement, transcribing the mistakes made in the record of the 1980 land claim.
- In early 1982 a well-known anthropologist wrote to Pancontinental to warn the company of serious concerns within the Aboriginal community that appropriate custodians had not been consulted about sacred sites in the Jabiluka area and that sites underground could be disturbed by mining activities with severe consequences.⁶⁸

68 *Submission from the Mirrar people to the UNESCO World Heritage Committee ICCROM and ICOMOS in relation to the Australian Government's Report, 'Australia's Kakadu', pp 22-25.*

4.79 This is an extensive and compelling record when one considers the claims made by the Government and ERA in relation to the Boiwek-Almudj sites. The Committee believes that for the Australian Government to use an obviously flawed process, which included the desecration of sacred sites and the wilful disregard of known information, in an attempt to discredit the claims of custodians about the Boiwek-Almudj complex, is grossly disrespectful. Whatever the legal uncertainties surrounding the site complex, the Committee believes that the claim of the Australian Government that the extent and meaning of the sites has recently been changed cannot be sustained.

4.80 Widespread evidence exists to show that a recorded description of the sites as sacred and dangerous and linked by a dreaming track, had appeared as early as 1978 and has been repeated on many occasions since. The rules governing the revelation and transmission of secret knowledge, and caution about revealing knowledge to non-Aboriginals until absolutely necessary, explains the absence of the site from the 1982 Agreement and the public statements about its nature since the Jabiluka development was revived in 1996. The Committee believes that it is a matter of respect for traditional law and culture that this information be accepted. The Committee calls on ERA to enter into new negotiations with the Mirrar with the aim of protecting the site from the impacts of mining.

4.81 Ms Margarula told the Committee, in response to a question citing the assurances of ERA about the eventual rehabilitation and return of the mine site to the Traditional Owners, of the irreversible damage already wrought by the mine's construction:

That idea [rehabilitation] is no good. They will interfere with the integrity of the site, they will take parts of it away, deposits in the ground made by the dreaming ancestor will be removed, they will do all sorts of explosions and crush the ground with forces of all description and then cover up all the dangerous things and leave it alone and go away. It is too late ... Once you destroy a sacred site that is the end of it.

We Aboriginal people believe that the wet seasons are intimately connected to this site and we do not know what bad things are going to happen with respect to the weather or the water. This will affect other Aboriginal people in the area as well.⁶⁹

Recommendation 3

The Committee recommends that all further construction of the Jabiluka mine be suspended until cultural mapping of the site area can be conducted in cooperation with the Traditional Owners and recognised custodians of the Jabiluka area.

69 *Proof Committee Hansard*, Jabiru, 15 June 1999, p 24.

The Social Impacts of Uranium Mining

Overview

4.82 Requirements for ERA to address the broader social impacts of the Jabiluka mine were included in the guidelines for both the EIS and PER. These included:

- The effects on employment, education, health and health services, safety, law and order;
- Possible adverse impacts upon Traditional Owners' social and cultural lifestyle, including customary practices and resource sharing; and
- Cumulative impacts, including the combined impacts of the Ranger and Jabiluka mines upon the Kakadu region.⁷⁰

4.83 The Committee heard a great deal of evidence about whether or not ERA, and the Commonwealth and Northern Territory Governments, had adequately assessed and attempted to mitigate these potential impacts both in the EIS and PER and in later initiatives.

4.84 Possible social impacts were thought to arise from a variety of causes:

- The influx of a large number of non-Aboriginal people during the mine life. The EIS stated that operation of the mine would result in an approximate ten to fifteen per cent increase in the population of the region, with a total possible mining workforce of over 200;
- The replacement of Government funding for basic services and programs with mining royalties;
- Adverse effects on food gathering and land usage through real or perceived contamination of the environment;
- The encroachment of non-Aboriginals onto restricted Aboriginal land;
- The pressure of participating in meetings and administrative arrangements; and
- Aboriginal perceptions of marginalisation, as a result of either the increasing numbers of non-Aboriginal people in the area or the denial of sovereignty over land and development. The extension of the life of the Ranger mine and of the town of Jabiru were important considerations here.

4.85 From the outset, the question of social impacts and their consideration within the EIA process has been coloured by the opposition of the Mirrar to the mine and the company's determination to hold them to the terms of the 1982 Agreement between Pancontinental and the NLC. The NLC, on behalf of Traditional Owners, restricted

70 Environment Protection Agency and NT Department of Lands, Planning and Environment, *Jabiluka: Draft Guidelines for an Environmental Impact Statement on the proposed development of Jabiluka No 2 uranium mine*, June 1996, p 9.

access to the lease area by the company, which ERA claims prevented the EIS from presenting sufficient or reliable information on social impacts on Aboriginal people.

4.86 Ms Jacqui Katona, Executive Officer of the Gundjehmi Aboriginal Corporation which represents the Mirrar, told the Committee that the dispute over the 1982 Agreement already had powerful social effects:

The most fundamental impact ... is the fact that their decisions were ignored by Government, that governments totally overrode Aboriginal people's opposition to uranium mining ... It has set up a power relationship where Aboriginal people are powerless and all the rest are powerful.

The poverty is phenomenal and all the other social and economic symptoms of that – like alcoholism, poor health and domestic violence – are just that: symptoms.⁷¹

4.87 The Senior Traditional Owner, Yvonne Margarula, was asked by the Committee whether the mine had brought any benefits to her community:

I can't think of anything good. I would like to think of something but I really can't.

Just look at the history of what has happened here with the mining. In the beginning when mining negotiations actually started and when mining first started, there was money coming out everywhere. There were houses built for people – promises of this, that and the other thing. But look what came with all this development – the alcohol, all sorts of unhappiness. We stand to lose our sacred sites but get a lot of money.⁷²

Time demands, cultural stress and administration

4.88 The Northern Territory's EIS assessment report stated that the process of negotiation, and the pressure and complexity surrounding development, also had powerful social effects:

Aboriginal people, individually and in communities, have become subject to increasing pressures to change and to information overload so there is often sufficient stress to cause social disruption. The people are currently receiving complex information on many topics from a variety of sources, but the information they receive is often incomplete and conflicting. Added to this are time pressures to make rapid decisions in a manner not consistent with Aboriginal approaches, which require a high degree of consensus arising from considered discussion from all parties concerned.⁷³

71 *Proof Committee Hansard*, Jabiru, 15 June 1999, pp 8-9.

72 *Proof Committee Hansard*, Jabiru, 15 June 1999, p 17.

73 Northern Territory Department of Lands, Planning and Environment, *Jabiluka Number 2 Uranium Mine Proposal: Environmental Assessment Report and Recommendations*, August 1997, p 62.

4.89 Environment Australia's EIS assessment also commented that dealing with mining companies, Park management and participation in Aboriginal organisations produced added stresses for Aboriginal people. Environment Australia noted that if the Commonwealth approved the project such pressures could increase.⁷⁴

Access to country and risk perception

4.90 Environment Australia's EIS assessment noted that the Ranger operation and Jabiru already took up a large part of Mirrar land. 'While access to most of the lease will remain,' they stated, 'it will potentially be less attractive. Even after rehabilitation, the land may have reduced value because of perceived association with radioactivity. While ERA's commitments to consultation ... would reduce this impact, the impact may remain significant.'⁷⁵

4.91 Echoing the NT's assessment, Environment Australia also noted that:

perception of risk may exist after an issue has been demonstrably dealt with to the satisfaction of the company and regulatory agencies. Risk perceptions may be due to issues of trust in scientific data collection and in the company ...

The impacts of these fears have not been well documented, other than reports (including in the NLC submission) of reduced usage of the Magela floodplain. Possible social impacts of these fears can include the psychological and health effects of suffering fear, reduced use of the area concerned and of species normally hunted from it. Over a very long period there is a risk of gradual attrition of knowledge of these areas if they become less frequented and children are taken there less often for socialisation into traditional ecological knowledge.⁷⁶

4.92 The Committee applauds the acuteness and sensitivity of this analysis. However, it is also concerned that such a profound series of potential impacts, which affect the very survival of Aboriginal tradition and are compounded by the Mirrar's fears for the integrity of the Boiwek-Almudj complex, were not reflected in a stronger recommendation. The Department merely recommended that ERA and the Supervising Scientist aim for better levels of communication about and participation in environmental monitoring, including providing data in forms which assist Aboriginal people to evaluate it for themselves.⁷⁷

74 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 118.

75 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 113.

76 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, pp 113-114.

77 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 114.

4.93 This recommendation is laudable in itself, but will be counteracted by the growing pattern of distrust and hostility which marks relations between the Mirrar and ERA. This has only been exacerbated by the arrest and prosecution of Yvonne Margarula for trespassing on the mine site in May 1998, which marked a new low in relations with the Mirrar, and by ERA's refusal to respond to the concerns about Boiwek-Almudj. Environment Australia stated that, ERA's commitment to cooperate and communicate with community groups in order to increase mutual trust and cooperation:

may reduce perceptions of perceived risk, [but] if such perceptions continue to exist so long after the commencement of mining at Ranger, it is unlikely that they could be easily banished.⁷⁸

4.94 It is the Committee's view that such impacts cannot be adequately dealt with in discrete measures arising from the EIA process. They must be addressed in the context of broader issues about sovereignty, consent and justice in relation to the approvals process and the legal rights of Traditional Owners.

Recommendation 4

The Committee recommends that the issues of Aboriginal people's access to, and perception of, country as a result of development projects, be addressed in a holistic process which links environmental impact assessment with questions of Aboriginal land rights, sovereignty and cultural survival.

Marginalisation and disempowerment

4.95 Environment Australia's assessment acknowledges this aspect of the social impacts of mining. It commented that marginalisation occurred through unequal power relations and the alienating daily experience of being a minority among non-Aboriginal people:

It affects people's ability and sense of effectiveness to pursue their own planning and development agendas (including visions of their country and futures) rather than be forced to adapt to the agendas of others.⁷⁹

4.96 Environment Australia stated that evidence dating from the Fox Inquiry confirmed the high level of Aboriginal marginalisation and that 'approval of the Jabiluka project would continue this degree of marginalisation over a far longer period (46-48 years post-1977). It stated that while approval would cause 'additional pain', non-approval 'would simplify the stakeholding relationships in the region after Ranger

78 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 114.

79 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 114.

ceases operation around 2008, leaving Aboriginal people in a more influential position overall.⁸⁰

4.97 The Gundjehmi Corporation's Jacqui Katona told the Committee that the impact of such enduring marginalisation was cultural genocide:

We live our culture. So when parts of our culture are being eroded, it is our identity which is being attacked and undermined. It is the future of our children that is being undermined. We might still be living after all this, but there will still have been an act of cultural genocide because the instability caused to our families will mean that the integrity of our culture has been severely affected. We will not have the ability to act as traditional owners.

In the same way that previous policies removed children from their families, that is exactly what is happening here. There is a definite break occurring in the ability that Aboriginal people have to exercise their identity.⁸¹

4.98 The Committee is concerned that neither ERA nor the Australian Government has been able to respond to these concerns with sensitivity. Environment Australia conceded that 'the manner in which the Commonwealth decision-making process is concluded has the potential to influence the extent of marginalisation that may be felt.'⁸² Environment Australia was particularly critical of ERA, saying that ERA's commitments to employment, training and business opportunities for Aboriginal people would be undermined by conflict with the Mirrar. It cited ERA's contention that 'many other Traditional Owners of the region have given strong support to mining and the benefits of mining to the community', and commented:

Given that no formal consultation has taken place, it is difficult to assign any credibility to this statement. It is also important to note that the final EIS does not acknowledge the possibility that, because there has been no formal canvassing of other Aboriginal people with cultural responsibility for the project area, it is equally possible that further opposition to the mine and support for the Senior Traditional Owner's position may be found there.⁸³

4.99 The assessment concluded with the grim statement that, if the opposition of the Mirrar continued, 'a decision to proceed with the project will increase marginalisation and social impact no matter what other measures are put in place.' It is telling, in the Committee's view, that this discussion did not give rise to any formal recommendations. The attitudes and decisions of the Minister also indicate that it has been ignored in the Commonwealth approvals process.

80 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, pp 114-115.

81 *Proof Committee Hansard*, Jabiru, 15 June 1999, p 13.

82 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 115.

83 Environment Australia, *Environment Assessment Report: Proposal to Extract, Process and Export Uranium from Jabiluka Orebody No 2*, August 1997, p 115.

The Kakadu Region Social Impact Study

4.100 Both Environment Australia's assessment and the EIS refer issues such as the distribution of royalties, alcohol and substance abuse, and cumulative impacts to the Kakadu Region Social Impact Study (KRSIS). KRSIS has been the subject of some controversy and bitterness, particularly over its implementation.

4.101 The Northern Land Council complained that because it was conducted in parallel with the EIS, the KRSIS study had little opportunity to determine outcomes in the EIS process. For this reason, in addition to the fact that the EIS was undertaken before the concerns of Traditional Owners about social impacts had been given consideration, the NLC argued that the EIS was 'fundamentally flawed'.⁸⁴

4.102 The KRSIS took place over an eight month period in two components. The first, the Aboriginal Project Committee (APC), conducted research among Aboriginal Communities and developed the analytical basis on which recommendations and an action plan could be developed. The Study Advisory Group (SAG), which was chaired by Mr Mick Dodson and included representatives of the NLC, ERA, the Northern Territory Government, Environment Australia, and the Office of the Supervising Scientist, oversaw the project and drafted its recommendations.

4.103 The introduction to the APC's report states that the KRSIS has 'been a project oriented less towards past impact causation than to identification of problems and issues that need to be addressed in an action plan for community development.' These included: analysis of servicing regimes, including support for efforts to transmit and strengthen traditional knowledge; the structure and operation of Aboriginal organisations set up to manage the material benefits of mining; and Aboriginal critiques of organisations in the region, such as ERA, ERISS, the NLC, Parks Australia North and the Jabiru Town Council.⁸⁵

4.104 The Committee acknowledges the quality and importance of the APC's report, which was compiled in a short time and created welcome scope for Aboriginal voices to be heard on the future of Kakadu. However, the opening comment about its scope also indicates the enforced limitations which governed its work. Despite being invoked as a necessary accompaniment to the EIA process, the study was not focused on assessing the impact of uranium mining on the region. In particular, it was specifically prevented from examining the potential social impact of the Jabiluka mine. The issues of mining-related disempowerment and sovereignty discussed in the NTDLPE and Environment Australia assessment reports were not discussed in the Kakadu Region Social Impact Study.

4.105 Many submissions to this Committee criticised the lack of specific attention in the Kakadu Region Social Impact Study to the social impacts of Jabiluka, particularly

84 Northern Land Council, Submission 45, p 1.

85 Kakadu Region Social Impact Study, *Report of the Aboriginal Project Committee*, June 1997, p i.

given its establishment in parallel to, but not necessarily as a part of, the EIA process. Thus it possesses an ambivalent status where it is both invoked and disavowed as an element of the Jabiluka EIA process. In the Committee's view, this has been counterproductive in the task of assuring Aborigines that their longstanding concerns about the impact of uranium mining were being addressed.

4.106 Many submissions to the Committee voiced concerns that the KRSIS recommendations were not being implemented. In its submission to the PER, the Northern Land Council said that: 'there continues to be no perceptible movement by the Commonwealth and Northern Territory Governments towards the implementation of its recommendations'.⁸⁶ Environment Australia, in its July 1998 PER assessment, acknowledged that: 'the Commonwealth and NT Governments have not as yet announced any decisions on implementing the recommendations of KRSIS'.⁸⁷

4.107 In its April 1999 reply to the World Heritage Committee mission's report, the Australian Government claimed that it 'has commenced action to implement the recommendations' of the Kakadu Regional Social Impact Study:

In late 1998 the Australian and Northern Territory Governments announced their formal response to the recommendations of the KRSIS Community Action Plan and the appointment of the Honourable Bob Collins as the independent Chair of the KRSIS implementation team. Mr Collins is a well respected former Senator for the Northern Territory with a strong record of working to progress Aboriginal people's interests.⁸⁸

4.108 The Government did not say what that response by the two governments had been, and stated that Mr Collins was still in the process of developing a draft KRSIS Action Plan in consultation with Commonwealth and NT Governments, Aboriginal organisations and individuals in the Kakadu region. Yvonne Margarula was asked by the Committee whether Mr Collins had visited her or her community:

He has been here to do something with the Aboriginal community. I do not understand fully what he is supposed to be doing. I do not know ... he came here once.⁸⁹

4.109 The Gundjehmi Corporation asked why the impact of Jabiluka was specifically excluded from the study, and why the local Aboriginal community was not allowed to decide the study's recommendations.⁹⁰ They have also asked why the Commonwealth and Northern Territory Governments have 'vehemently opposed the

86 Northern Land Council, *Comments in relation to the Jabiluka Mill Alternative Public Environment Review*, p 2.

87 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 60.

88 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, April 1999, p 86.

89 *Proof Committee Hansard*, Jabiru, 15 June 1999, p 18.

90 Gundjehmi Corporation, Submission 48, p 8.

primary recommendation of KRSIS that Jabiru become Aboriginal land'. The APC report argued that:

All of Kakadu, including Jabiru, should be legally Aboriginal land. If the Aboriginal political position is to be sustained and enhanced, it must be underwritten by that legal recognition. Indeed that legal recognition would probably be seen itself as an act of respect from the non-Aboriginal polity to the Aboriginal culture of Kakadu. It is also seen as a necessary act of empowerment.⁹¹

4.110 The Kakadu Region Social Impact Study contained two recommendations which dealt with mining. One recommended that the definition of the 'area affected' by the Ranger mine for the purpose of the distribution of royalties be widened. The second went to the heart of the dispute over Jabiluka, and appears to have fallen on deaf ears since. It stated, in part, that:

Recognition be given to the special interests of the traditional owners of a mine area. In particular the Traditional Owners should have primacy over decision-making that may impact on their land, while recognising this is different to decisions on area affected moneys which are directed to the whole community.⁹²

4.111 The KRSIS also made reference to the problem of the substitution by Governments of service and welfare funding for royalty payments, by recommending further investigation of and action on the issue. At its hearing in Darwin the Committee was told by a member of the SAG, Mr Stephen Roeger, that the NLC believed that Kakadu communities received less from Government because of a perceived wealth in royalties, but that:

There has not been an objective study of it. The Aboriginal Project Committee in the Kakadu Region Social Impact Study sought to engage in an investigation of that nature. They were encouraged not to do so by the Study Advisory Group – I will not attempt to explain their reasoning ...

One of the most telling findings of the social impact study was that conditions in Kakadu are no better than they are anywhere else in the Territory. Indeed, many would argue that they are considerably worse in many respects.⁹³

4.112 The Committee notes with concern that Mr Collins and the KRSIS implementation team are still in the process of developing a plan to implement the KRSIS recommendations nearly two years after its findings were released. It is also concerned that his consultation with key stakeholders, such as the Mirrar, appears to

91 Kakadu Region Social Impact Study, *Report of the Aboriginal Project Committee*, June 1997, p 73.

92 Kakadu Region Social Impact Study, *Community Action Plan: Report of the Study Advisory Group*, July 1997, p xv.

93 *Proof Committee Hansard*, Darwin, 16 June 1999, p 147.

have been so limited. Given the roles played by the Commonwealth and the Northern Territory in this process to date, the Committee has serious doubts that full implementation of the KRSIS recommendations will ever occur.

The cumulative impact of mining

4.113 Perhaps the most profound impact of the Jabiluka project will be the cumulative effect of the mine developments. In its submission to the World Heritage Committee the Northern Land Council said that:

The approval of Jabiluka means that the affected land will not be returned to the 'Aboriginal domain' for the quiet enjoyment of its traditional owners until about 2035. The mining project will have an impact on a generation who were never intended to be saddled with the impacts of mining.⁹⁴

4.114 The Gundjehmi Corporation's Mr Matt Fagan also outlined this impact, particularly if ERA's preferred option, the Ranger Mill Alternative, proceeds:

If the Ranger alternative goes ahead, Yvonne Margarula, most of her sisters and most people in her family will never see the Ranger project area rehabilitated. It will not be rehabilitated until 2035 or 2040.

Unfortunately, with the life expectancy of Aboriginal people in this area, it is highly unlikely that Yvonne Margarula will ever see that area rehabilitated. That has to be a tremendous concern. Talk about a bigger environmental footprint, if you like, with a JMA; what about the fact that that area will not be rehabilitated?⁹⁵

4.115 The Committee feels that the potential social impacts of mining have only been partially understood and addressed within the EIA process. In particular, they have been inadequately addressed in formal recommendations arising from either the EIS/PER and the Kakadu Region Social Impact Study, and have been disregarded in ministerial decision-making about the mine.

Recommendation 5

The Committee recommends that a new inquiry be conducted to assess the specific social and cultural impacts of the Jabiluka project on the Aboriginal communities of the Alligator Rivers Region. The Committee also recommends that the social and cultural impacts of mining be given greater attention in ministerial decision-making.

94 *Kakadu National Park World Heritage: Submission by the Northern Land Council to the UNESCO World Heritage Mission to Kakadu National Park*, October 1998, p 9.

95 *Proof Committee Hansard*, Jabiru, 15 June 1999, p 12.

World Heritage Protection

4.116 Injunctions for the company to address the potential impacts on the surrounding World Heritage values of Kakadu National Park were contained in the Guidelines to both the EIS and PER. With the report of the World Heritage Committee mission to Australia in November, and the imminent meeting of the World Heritage Committee in Paris to decide whether to list Kakadu as In Danger, these issues have clearly been of concern to the Australian Government as well.

4.117 A detailed discussion of the Jabiluka project and the World Heritage values of Kakadu National Park is contained in Chapter 6 of this Committee's report. That chapter outlines the legislative and administrative arrangements in Australian law which provide for World Heritage protection, and summarises the Government's defence of its record in relation to Jabiluka. The chapter also discusses the many submissions to this Committee which expressed concern about the possible impact of the project on the World Heritage values of the Park. For this reason the Committee refers readers to Chapter 6 for further detail, and makes some brief comments below.

4.118 The World Heritage Committee mission's report already suggests that the company and the Australian Government have failed to protect the World Heritage values of Kakadu National Park adequately throughout the Jabiluka process. It is the view of this Committee that much of the evidence discussed above supports the views of the mission. While the Supervising Scientist's report to the World Heritage Committee has been rightly praised, it does not conclusively dispel uncertainties about the project.

4.119 As the above discussion (4.9-4.41) of the outstanding run-off and tailings management issues shows, substantive scientific and technological uncertainties remain in relation to the cement paste process and the method of tailings disposal. These uncertainties have been compounded by the continuing uncertainty about the option ERA intends to pursue and the inappropriate level of assessment to be accorded the revised proposals. For these reasons it was premature for the Supervising Scientist to argue that 'the natural values of Kakadu National Park are not threatened by the mine and the degree of scientific certainty that applies to this assessment is very high'.⁹⁶

4.120 The Committee also makes the point that the protection of natural values – in this case by no means certain – is only a part of the task of protecting World Heritage values. The World Heritage Committee, in particular, has firmly stated that its consideration of World Heritage protection also takes in the cultural and social protection of living cultures, and must take into account developments in international human rights law regarding the right of indigenous peoples to determine their own

96 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 99.

futures.⁹⁷ The adequate protection of World Heritage values requires a holistic framework in which environmental protection, the recognition of indigenous rights and the protection of living culture are given equal weight.

The Regulation and Oversight of Uranium Mining in Kakadu

4.121 A number of submissions expressed concern about the regulatory structure for the environmental oversight of both the Ranger mine and the Jabiluka development. Of particular concern were:

- The shift in responsibility for day-to-day regulation from the Office of the Supervising Scientist (OSS) to the Northern Territory Government (NTG);
- The erosion of funding and resources within the OSS; and
- Concerns about the independence of the OSS.

The Office of the Supervising Scientist (OSS) and the Regulatory Regime

4.122 Section 5 of the *Environment Protection (Alligator Rivers Region) Act 1978* specifically established the Office of the Supervising Scientist with the responsibility of ensuring that the region's uranium mines do not damage the environment of Kakadu. From its establishment until recently the OSS has maintained offices in Jabiru and manages an environmental research institute (ERISS). It is required to advise the Minister on matters of environmental protection in relation to uranium mining, and to 'devise and develop' standards and practices for environmental protection. Section 5(d) specifically empowers the OSS to:

coordinate, and supervise the implementation, in relation to uranium mining operations in the region, of requirements of, or having effect under, prescribed instruments in so far as those requirements relate to any matter affecting the environment of the region.⁹⁸

4.123 In its submission to the Committee, the Australian Conservation Foundation (ACF) argued that there have been long standing problems, dating from the establishment of the OSS, 'with the functioning of the OSS and the complicated accountability lines between the Commonwealth, the NT Government, ERA and the Northern Land Council'. They cited the 1988-89 Annual Report of the OSS as stating that the level of cooperation between the OSS and ERA was low and that ERA was seeking to make the role of the OSS in the region redundant.⁹⁹ The ACF also alleged that:

There was also evidence that ERA and the Northern Territory Government were also colluding to reduce the extent to which OSS was directly involved

97 UNESCO World Heritage Committee, *Report on the mission to Kakadu National Park, Australia, 26 October to 1 November 1998*, pp 1-10.

98 *Environment Protection (Alligator Rivers Region) Act 1978*, pp 4-5.

99 Australian Conservation Foundation, Submission 34, p 3.

in decision-making processes concerning the operation of uranium mining in the region.¹⁰⁰

4.124 The 1988-89 Annual Report of the OSS complained that:

Ranger has, by increasingly ignoring OSS advice on environmental issues, appeared to wish to establish that OSS performs no useful function ... it has attempted to impugn the scientific credibility of the office, and has lobbied for its disbandment'.¹⁰¹

The Northern Territory Government as the Supervising Authority

4.125 In 1995 a Memorandum of Understanding between the Commonwealth and the Northern Territory redefined the respective regulatory roles of the NT and the OSS. The MOU shifted primary responsibility for the day-to-day supervision and regulation of uranium mining from the OSS to the NT, which would henceforth rely on the UMEC Act.¹⁰²

4.126 The ACF identified two problems with this new arrangement. First, it stated that the terms of the MOU are not legally binding. Second, it argued that this involved delegating responsibility 'without enforceable controls or accountability mechanisms' to a government with a poor track record in the environmental regulation of mining. In the ACF's view:

This delegation of Commonwealth powers to the NT Minister for Mines directly places environment management of Kakadu at risk. The NT Department of Mines is not an independent body. It is a department which is directly involved in the promotion of mining in the NT. This is a direct conflict of interest and means that environmental management considerations will be subject to distortions caused by the prevailing economic and political aspirations of the NT government.¹⁰³

4.127 As early as 1988-89 the Annual Report of the OSS had identified problems with the Northern Territory as a regulator. In identifying a range of breaches of the Ranger Environmental Requirements (ERs) that year, the OSS said:

These matters are of concern, not so much because of any immediate risk to the environment, but because by slow attrition of the ERs, and the accumulation of numerous uncoordinated small impacts, environmental control of the operation could be compromised. These actions by Ranger [are] too readily accepted by the NT...

100 Australian Conservation Foundation, Submission 34, p 3.

101 Supervising Scientist for the Alligator Rivers Region, *Annual Report 1988-89*, Canberra: AGPS, 1989, p 8.

102 Australian Conservation Foundation, Submission 34, p 3.

103 Australian Conservation Foundation, Submission 34, p 3.

The OSS has expressed its concerns a number of times over the years, that the formulation of NT authorisations has been too imprecise to allow them to be enforced.¹⁰⁴

4.128 The ACF and the Environment Centre of the Northern Territory (ECNT) pointed out that the NT Government has a poor record in the environmental management of mines. In particular, the ECNT told the 1996 Senate Inquiry into Uranium Mining and Milling of pollution episodes at Groote Eylandt, McArthur River, Nabalco and Pine Creek which the NT Government had failed to monitor or prevent.¹⁰⁵

4.129 In 1996 BHP was fined \$45,000 by the NT Government for allowing more than 2 million litres of diesel to leak into Groote Eylandt's water table from stores held at its manganese mine. The NT Government had been warned of this possibility as early as 1991 but had failed to investigate. At the Renison gold mine, local residents detected the pollution of Copperfield and Pine Creeks which the NT had failed to notice; at Mount Isa Mines' lead and zinc mine near Boorooloola, the NTDME failed to ensure that proper safeguards were in place to prevent a large spill of ore into the McArthur River when it was being loaded onto barges; and only after a 1989 study found high levels of heavy metals in oysters at Gove Harbour did the NT institute a tighter environmental regime at the Nabalco mine, despite Justice Fox expressing disquiet about the refusal of Governments to reveal their knowledge of pollution problems.¹⁰⁶

4.130 The ECNT also cited a *Northern Territory News* report of a leaked internal memo drafted by an officer of the NTDME's Environmental Directorate. The officer criticised the Department's lack of preparedness to cope with potential environmental problems arising from the discharges from mine sites, and complained that:

my efforts to implement these [data collection] initiatives in a timely manner have been continually frustrated by internal wrangling, complacency and poorly defined responsibilities ... I am disappointed that approaches designed to develop standardised techniques for environmental protection in the NT have been stymied by the inability of policymakers to make timely decisions.¹⁰⁷

4.131 The ECNT also expressed concern to the 1996 Inquiry about the 'club' which had developed between mining companies and NT regulators:

104 Supervising Scientist for the Alligator Rivers Region, *Annual Report 1988-89*, Canberra: AGPS, 1989, pp 5-6.

105 Australian Conservation Foundation, Submission 34, Attachment I.

106 Australian Conservation Foundation, Submission 34, Attachment I.

107 Australian Conservation Foundation, Submission 34, Attachment I.

There is a revolving door by which staff move from company to supervisory bodies and reverse with alarming regularity. Independent assessment is impossible in these circumstances.¹⁰⁸

4.132 The ACF argued that the 17 August 1998 correspondence from the former Minister for Resources and Energy, Senator Parer, to ERA confirmed the marginalisation of the OSS. Senator Parer told ERA that the Northern Territory Government held responsibility for regulation and monitoring of mining as the ‘supervisory authority’, whereas the Commonwealth, through the OSS, merely provided advice on matters relating to environmental protection. The ACF commented that:

Previously ERA had to convince the OSS that there would be no environmental damage. Now all they have to do is convince the Supervising Authority – the NTG – that there will be no environmental damage. An altogether easier task as the NTG only needs to be convinced that ERA is seeking to protect the environment to an extent that is reasonably practicable.¹⁰⁹

4.133 However, the Minister put the view in his letter that:

Where my requirements relate to regulatory arrangements, I have only referred to the Supervising Authority as the regulator, but this should not be interpreted as minimising the role of the Supervising Scientist in providing relevant advice consistent with working arrangements argued between the Commonwealth and Northern Territory.¹¹⁰

4.134 In the Committee’s view this argument confirms the fact of the transferral of regulatory authority about which the ACF has expressed concern, but attempts to cast it in a different light. The Committee welcomes the vote of confidence placed in the OSS but shares the ACF’s broader concern about the shift in regulatory authority from the OSS to the NTDME, which has a proven record of failing to act on environmental breaches.

Recommendation 6

The Committee recommends that powers of day-to-day regulation of uranium mining in the Alligator Rivers Region be removed from the Northern Territory Department of Mining and Energy and restored to the Office of the Supervising Scientist.

108 Australian Conservation Foundation, Submission 34, Attachment I.

109 Australian Conservation Foundation, Submission 34, Attachment I.

110 Senator Warwick Parer to Mr P. J. Shirvington, tabled correspondence, 27 August 1998, p 2.

The Funding and Operation of the OSS

4.135 The Northern Land Council, in discussing the standards required in relation to radiological protection, expressed concern about the erosion of funding from the OSS:

There is a continuing need for an effective independent monitoring authority to ensure compliance with national and international standards. The progressive weakening of the role of [the OSS] has reduced the level of independent assessment of environmental protection within Kakadu ... Australia could better demonstrate its commitment to such protection by strengthening the role of OSS within Environment Australia.¹¹¹

4.136 The NLC also expressed its concern, at the way the NT assumed the role of regulator and also at a steady withdrawal of resources from the OSS:

We see [the assumption of regulation by the NT] as a substantial reduction in the Supervising Scientist's role and that, from there on forward, the Supervising Scientist's funding and resources have been systematically reduced – and substantially so in 1995, when the organisation was subject to a major review.¹¹²

4.137 The ACF's Mr Dave Sweeney told the Committee that:

the OSS has experienced a major series of financial cutbacks and a major decline in both its autonomy and its resource base. The other thing ... is that the on-the-ground presence is moving away. There are currently detailed negotiations to move the bulk of OSS and ERA offices away from Jabiru and into Darwin. OSS has increasingly moved away from a field presence to a lab or laptop presence where now, instead of collecting its own data, it largely monitors company provided data.¹¹³

How Independent is the OSS?

4.138 Some witnesses also felt that in addition to losing resources and having its permanent monitoring presence scaled back, the OSS had become less independent. Mr John Hallam suggested that:

the annual reports of the [OSS] have become more glossy, thinner and less detailed, and there has been progressively less honest assessment in those reports, particularly over the last ten years. You would have seen a progression from reports that were at times highly critical of the Ranger operation to a tick-a-box exercise where all the boxes are pre-ticked.¹¹⁴

111 Northern Land Council, Submission 45, p 3.

112 Mr Stephen Roeger, *Proof Committee Hansard*, Darwin, 16 June 1999, p 138.

113 *Proof Committee Hansard*, Canberra, 11 June 1999, p 91.

114 *Proof Committee Hansard*, Canberra, 11 June 1999, p 91.

4.139 Legal and Policy Adviser to the Gundjehmi Aboriginal Corporation, Mr Matt Fagan, told the Committee that:

Any notion that the Office of the Supervising Scientist is independent is clearly ludicrous. It takes direction from the Minister. Materials that are produced by [ERISS] are vetted by Environment Australia. The Supervising Scientist has acted as a lobbyist at World Heritage Committee meetings for the Australian Government on the Jabiluka proposal.¹¹⁵

4.140 In contrast the Supervising Scientist, Dr Arthur Johnston, strongly defended the independence of the OSS. While he acknowledged that under Section 7 of the *Environment Protection (Alligator Rivers Region) Act 1978* (EPARR) the OSS reports to the Minister for the Environment and is subject to the direction of the Minister, he stated that the Act also required that the OSS report to Parliament any direction given by the Minister and that any report that results from that direction must be tabled in Parliament. 'This,' he said, 'is a safeguard that essentially ensures the independence of the advice given by the Supervising Scientist.'¹¹⁶

4.141 In relation to the Supervising Scientist's April 1999 report to the World Heritage Committee, Dr Johnston also assured the Committee that:

This report was finalised by the Supervising Scientist without it being seen by the Minister or his staff; and significantly, no request was received by the Supervising Scientist from the Minister or his office to see the report prior to its being submitted to the [World Heritage] Committee.¹¹⁷

4.142 This Committee accepts the assurances of the Supervising Scientist about his statutory independence and the requirement in Section 36 of the EPARR Act for Ministerial directions to be reported to Parliament. It also accepts the assurances that his report to the World Heritage Committee incorporated no material at the request of the Minister. Professor Wasson has also praised the scientific quality of the bulk of that report.¹¹⁸ However, these assurances do not mitigate broader concerns about the decline in the power, resources and independence of the OSS.

4.143 While it would seem proper (and valuable) that the OSS should be required to conduct studies and suggest measures for environmental protection at the recommendation of government, the Committee believes that it is highly inappropriate that the OSS remain an office within the Commonwealth Department of Environment and Heritage, or that it work closely with government in campaigning for, or promoting, policy decisions.

115 *Proof Committee Hansard*, Darwin, 16 June 1999, p 165.

116 *Proof Committee Hansard*, Canberra, 11 June 1999, pp 1-2.

117 *Proof Committee Hansard*, Canberra, 11 June 1999, p 2.

118 *Proof Committee Hansard*, Canberra, 11 June 1999, p 25.

4.144 A broad range of evidence to the Committee has shown that the numerous statements by the OSS about the environmental safety of the mine conflicts with known scientific and project uncertainties. For example, its comment in the April 1999 report that there was a 'very high' degree of scientific certainty that the natural values of Kakadu National Park were not threatened, was based on the assumption that ERA will develop an option (100 per cent underground disposal of tailings) which the company has, in fact, expressed considerable reluctance to pursue.¹¹⁹ Further scientific investigation of the proposed tailings treatment method and disposal remains outstanding, and final approval of the JMA remains contingent on the submission and assessment of these studies. Broad political assertions in the face of such uncertainties dramatically erode the credibility of the Office of the Supervising Scientist.

4.145 Similarly, the Committee feels that the OSS, in arguing that many outstanding environmental issues (as identified by Wasson et al and the WHC mission) could be resolved at the later design stage rather than prior to approval, is taking on an inappropriate role which compromises its independence. The OSS further contended, to the WHC, that this deferral of design and investigation did not prevent it from reaching a conclusion 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'.¹²⁰

4.146 These are highly tendentious policy arguments which have been strongly criticised by many witnesses, and should properly remain for executive government to defend. Making such arguments draws the OSS into defending an incremental approvals process which has been strongly criticised, and which disregarded the continuing possibility that there might never be an environmentally acceptable JMA option proposed by ERA.

Recommendation 7

The Committee recommends that the Office of the Supervising Scientist be removed from the corporate structure of the Department of Environment and Heritage and reconstituted as an independent regulatory authority of uranium mining in the Alligator Rivers Region. It should retain a carefully defined capacity to receive references from, and provide advice to, the Environment Minister and make recommendations. The funding of the Office of the Supervising Scientist should be increased so that it is able to conduct its own monitoring and research.

119 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 17; Energy Resources of Australia, *Jabiluka Mill Alternative: Synopsis of Key Issues and Processes*, August 1998.

120 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 13.

The Government's Decision-Making

4.147 Serious concerns were expressed to the Committee about the quality, timing and appropriateness of Government decisions to assess and approve various stages of the Jabiluka project. These concerns included:

- Inappropriate levels of assessment applied to the various Jabiluka Mill Alternative proposals;
- Whether Ministerial decisions reflected environmental assessments;
- The precipitate approval of mine construction before the Jabiluka Mill Alternative had been assessed and approved;
- The politicisation of decision-making to avoid a change of government blocking the project's development; and
- Whether Government conditions placed on the mine's construction and operation can be adequately enforced.

Level of Assessment

4.148 Many of the submissions to the Committee identified problems with the level of assessment applied to the Jabiluka Mill Alternative and, in particular, to the resubmission by ERA of proposals to either put 100 per cent of the tailings underground or a portion in surface built pits. These concerns appeared in submissions by The Wilderness Society, ACF, Friends of the Earth, the ANU scientists, the NLC and the Gundjehmi Corporation.

4.149 The insistence of the former Supervising Scientist, Dr Peter Bridgewater, that the JMA be subject to a full EIS has been cited above (3.23). In evidence, Dr Johnston explained that Dr Bridgewater had used 'a loose phraseology' and that his desire was for 'a public process ... When [the assessment] was a PER rather than an EIS, that in his view was sufficiently a public process, and that was the advice he subsequently gave to the Minister'.¹²¹

4.150 However, some witnesses put the view that the requirement for an assessment of the JMA as a PER, in isolation from the RMA, fractured the process of assessment to the detriment of the EIA process. The Environment Centre of the Northern Territory (ECNT) submitted that the JMA required a full EIS because it involved the consideration of issues wider than those established in administrative guidelines for a PER, which was to be used 'where impacts are expected to be focused on a restricted number of specific issues'. It cited the author of *Environmental Law in Australia*, G. M. Bates, as saying that 'a PER would be directed where it is considered that ... the issues or impacts are likely to be limited ... An EIS would be expected where the

121 *Proof Committee Hansard*, Canberra, 11 June 1999, p 3.

issues are more wide ranging, the impacts potentially great, and the issues themselves requiring clarification.¹²²

4.151 The Committee accepts this view. It is clear that the JMA will have a far greater impact on the Jabiluka site and surrounding area than the RMA. Similarly, the large number and scope of the requirements following the RMA EIS suggest that many issues remained to be clarified. In the Committee's view, a new proposal involving the construction of milling facilities and tailings disposal on site, located inside a World Heritage Area and adjacent to an identified sacred site complex, and which has potentially significant social impacts given the hostility and bitterness of Traditional Landowners, meets the definition of a project requiring a full EIS. The Public Environment Report demonstrates that the surface disruption is far greater, with long-term ore stockpiles and tailings disposal plans creating far greater challenges for managing run-off containment and rehabilitation strategies.

4.152 A further concern about the reduced level of assessment for the JMA is that it creates a further tendency and rationale for the downgrading of subsequent assessments as new options are proposed. This in particular occurred with the requirements for further assessment of the JMA tailings disposal options. ERA is required both to conduct further studies of the cement paste technology before the 100 per cent option can be implemented, or, if it wishes to pursue its preferred 50-50 option, to seek new guidelines for further assessment of that proposal. Further redesign and scientific study is to be assessed by the Supervising Scientist and the Northern Territory Government.

4.153 While the ANU scientists did express their confidence in the abilities of the Supervising Scientist, evidence cited above (4.138-4.146) also reflected concerns about the independence of the OSS and the regulatory record of the Northern Territory Government. Statements by the OSS to the World Heritage Committee, to the effect that there are 'no insurmountable obstacles that would prevent a design being achieved that would ensure the highest level of environmental protection', appear to have prejudged the issues they are being relied on to adjudicate.¹²³ The Committee believes that, at the very least, any further assessment of the tailings disposal options at Jabiluka should be a public process. It should enable expert peer review by scientists, and also require an assessment of the cultural impacts of creating new landforms with excavated waste rock.

122 Environment Centre NT Inc, *Comment on the draft guidelines for a Public Environment Report on the Jabiluka Mill Alternative*, 31 May 1998, pp 1-2.

123 Office of the Supervising Scientist, *Assessment of the Jabiluka Project: Report by the Supervising Scientist to the World Heritage Committee*, April 1999, p 13.

Recommendation 8

The Committee recommends that should the project proceed, further assessment of Jabiluka tailings management, waste rock disposal, run-off containment and radiological protection measures be subject to a public process at the level at least of a Public Environment Report, and that such revised proposals be subject to peer review by scientists.

The Timing and Appropriateness of Approvals

4.154 In evidence to the Committee, Professor Wasson complained that ‘the assessment of the entire Jabiluka project has been piecemeal and very difficult for non-specialists to understand. I think this is a dreadful outcome for such an important area ... we remain concerned, therefore, that possible damage to Kakadu is a reality because a complete risk assessment has not been completed’.¹²⁴ He continued that:

there was a lot of change on the run. A lot of policy decisions seemed to be being made on the run – for example, the below ground disposal requirement by Senator Hill was made only two weeks before the last federal election. We are concerned that there appears to have been somewhat indecent haste in some of these matters before the evidence was in.¹²⁵

4.155 In his submission to the Committee, Professor John Mulvaney argued that the decisions of the Environment Minister to approve the Ranger Mill Alternative and Jabiluka Mill Alternative were ‘premature and counter to the provisions of Section 30 of the *Australian Heritage Commission Act 1975*’ because:

[he] did not have before him, a complete database of the cultural features of the Jabiluka area, or the consequences of dust or vibration upon the art and cultural sites in the mine vicinity ... A cultural management plan, and scientific tests re dust and vibration should have preceded not followed mining impact under the provisions of the heritage legislation.¹²⁶

4.156 Under Section 30(3) of the Act the Minister is required to obtain the advice of the Heritage Commission prior to taking any actions affecting places registered on the National Estate. The Secretary of the Department of the Environment and Heritage told the Committee that that advice had been sought but could not undertake to provide a copy of that advice to this Committee.¹²⁷

124 *Proof Committee Hansard*, Canberra, 11 June 1999, p 26.

125 *Proof Committee Hansard*, Canberra, 11 June 1999, p 28.

126 Professor John Mulvaney, Submission 30, p 2.

127 *Australian Heritage Commission Act 1975*, p 20; Mr Roger Beale, Department of the Environment and Heritage, *Proof Committee Hansard*, Canberra, p 45.

The problem of incremental decision-making

4.157 The Australian Conservation Foundation (ACF) expressed serious concerns about the ‘incremental’ nature of the approvals given by the Commonwealth:

This is perhaps the most insidious of the ways the approvals process has been manipulated. In theory the final approval for the Jabiluka mine has not been given, yet we have extensive underground works – right to the edge of a known sacred site – and extensive surface works and industrial infrastructure. All have been sanctioned by a series of Ministerial decisions a number of which are the subject of ongoing legal action in the Federal Court.¹²⁸

4.158 The ACF argued that precipitate approvals were being given from the earliest stages of the project. When the Traditional Owners refused permission for the Ranger Mill Alternative, ERA was forced to submit a ‘change in scope’ application to the Northern Land Council (NLC) for approval to proceed with the JMA. Even after that was refused by the NLC on behalf of the Mirrar, and the NLC was forced into adjudication under Section 3.2(h) of the 1982 Agreement, the Northern Territory Government approved the construction of a security compound around the mine site.¹²⁹

4.159 Of great concern to many witnesses, including the ACF, Friends of the Earth, The Wilderness Society, the Northern Land Council, the ANU scientists and the Gundjehmi Corporation, were the subsequent approvals given by the Northern Territory Government to the construction of the access portal, decline and other works before the JMA assessment process had even been concluded. This decision flowed from the indications given by Senator Parer and Senator Hill that aspects of the project allegedly ‘common’ to the RMA and JMA could proceed. The ACF commented that:

At this stage ERA had **no** legal mining project because the remote mill option had been rejected and the on site milling at Jabiluka had not been approved under the Environmental Protection (Impact of Proposals) Act.¹³⁰

4.160 The Committee notes that this concern remains current. A final milling and tailings disposal option at Jabiluka has still not been finally developed or approved, and is the subject of continuing scientific uncertainty. Meanwhile the construction of the decline has been completed and ERA is proceeding with further drilling and exploration of the ore body prior to mining.

The politicisation of decision-making

4.161 The ACF further argued that the timing of Government decisions has been deliberately aimed at thwarting possible future courses of action:

128 Australian Conservation Foundation, Submission 34, p 1.

129 Australian Conservation Foundation, Submission 34, p 2.

130 Australian Conservation Foundation, Submission 34, p 2.

Decisions related to the disposal of tailings were being made in the lead-up to the 1998 federal election. There was therefore considerable pressure being exerted on the Government to make a decision about the mine. There was evidence that the Liberal Government could lose power and that the Labor Party had a no new mines policy. Therefore if the approvals for Jabiluka were made prior to the election and if Labor won they could be bound to allow the mine to continue ... The approvals process has been based on political expediency and blatant moves to facilitate a timetable being set by the mining company.¹³¹

4.162 It is obviously difficult to prove such an allegation conclusively. However the Committee concurs with the views of witnesses such as Professor Wasson that the 100 per cent underground tailings option had not been fully assessed before conditional approval for the JMA was given. That the mere appearance of ‘political expediency’ was allowed to occur indicates a serious failure of decision-making. The facts of this issue will probably remain in dispute, but if the allegation were to be true it would indicate a gross perversion of the EIA process.

4.163 The ACF concluded by describing how this ‘incremental’ approach to approvals has damaged the integrity of the EIA process:

Incremental decision-making has a number of impacts. It places the Traditional Owners under increasing pressure as they see their demands regarding the proposal overridden and ignored. Incremental decision-making also strengthens the resolve of the proponents of the mine as it gives them a legal basis to challenge future decisions to prevent the mine or seek compensation for work already carried out, even if that work has been done with the full knowledge that they do not have final approvals.¹³²

Did assessments support approvals?

4.164 Many witnesses raised the problem of whether the environmental impact assessments provided adequate scientific certainty and assurances to support the extension of Government approvals. These concerns have been particularly acute regarding the approvals ventured for the JMA.

4.165 This report has already discussed the substantial scientific uncertainties which attended the JMA proposals for the manufacture of cement tailings paste and its disposal partly in the surface pits. Departmental recommendations would also then have to take into account other objectives of the assessment, such as the discussion of potential social, cultural and World Heritage impacts.

4.166 In its assessment of the Jabiluka Mill Alternative PER, Environment Australia expressed considerable caution about allowing the project to proceed. It is

131 Australian Conservation Foundation, Submission 34, p 4.

132 Australian Conservation Foundation, Submission 34, p 2.

significant that its view took account of the all the major issues – environmental, social, and cultural - raised during the EIA process:

it could be reasonably argued that these key aspects of the proposal [milling and tailings disposal] are not sufficiently advanced or justified to allow either of the JMA proposals to proceed at this time. Such a position is based on the importance and sensitivity of the area within which the Jabiluka lease is located and a conservative precautionary approach in the face of the scientific uncertainty associated with important aspects of the JMA, including the degree of social and cultural impact on the Traditional Owners and other Aboriginal people, whose perception of harmful impacts of uranium mining on the biophysical environment may be as significant as any scientifically measurable impact (or lack thereof) on these attributes.¹³³

4.167 As discussed in the section above (4.15-4.41) dealing with tailings disposal, the Committee feels that, notwithstanding the Environment Minister's reluctance to grant approval for the 50-50 disposal option, it was also the case that insufficient evidence was available either to him or to his Department to approve the JMA on the basis of a complete return of tailings underground.

4.168 The Committee feels that it is of great significance that Environment Australia's caution regarding the JMA referred also to the lack of knowledge about the 'degree of social or cultural impact' on Aboriginal people in the area. The Gundjehmi Corporation, the Northern Land Council, the ANU scientists and others have also offered the view that cultural heritage issues had been inadequately addressed in the EIS and PER. As the NTDLPE and Environment Australia's EIS assessments show, concerns about the potential social impact of the mine's approval were profound. The Kakadu Region Social Impact Study was an inadequate vehicle for the consideration of these concerns and was specifically prevented from dealing with the potential impact of Jabiluka itself. No dedicated social impact study has been commissioned. The Committee believes that the concerns about the mine's social and cultural impact were alone of such significance as to prevent the mine's approval at that time.

4.169 In evidence, and in its recent report to the World Heritage Committee, the Supervising Scientist put the view that many of the outstanding run-off and tailings disposal issues did not need to have been resolved at the EIS stage but could be deferred to the detailed design stage of the project; that is, after formal approvals had been given:

It was our view that, while in some cases there were issues of detail that would need to be pursued by the Supervising Scientist and by the NT regulatory authorities at the detailed design stage, there was adequate

133 Environment Australia, *Environment Assessment Report: The Jabiluka Mill Alternative at the Jabiluka No 2 Uranium Mine*, July 1998, p 67.

evidence that an appropriate final design was achievable that would ensure the protection of the World Heritage values of Kakadu National Park.¹³⁴

4.170 However, Professor Wasson argued that the location of Jabiluka within a World Heritage area required that the mine's environmental technologies should have been fully developed at the EIS stage:

for a project with the potential to impact on a World Heritage property the highest possible standards of assessment should be applicable at the EIS stage, not just in the detailed design stage. Let us be very clear: mining in the midst of a World Heritage area is not normal ... Therefore, to apply to a mine site in the midst of a World Heritage area the same standards of protection and process as we do to any other site seems to miss the point of the very high values that are attributed to a World Heritage property by the international community.¹³⁵

4.171 The ANU scientists further contended that the Supervising Scientist's April 1999 report to the World Heritage Committee confirmed their view that the previous assessments of the EIS and PER 'included key technical errors and omissions, principally related to hydrology, to planned waste disposal and conservation values'. Professor Wasson argued strongly that this pattern of decision-making had brought the key aspects of the project into doubt:

We believe that much closer attention should have been paid to some of these issues - that are now in the OSS report - at the EIS stage. Personally, I find it worrying that the mine has continued to be developed while the very important data on rainfall, flooding, the design of the tailings disposal and all these issues to do with stability are still going on. We are expected to believe a lot in good faith. A lot of the processes we have seen thus far do not give us huge confidence. It is almost as if the cheque is in the mail. Frankly, in our view, that is not good enough in a World Heritage area.¹³⁶

4.172 The Committee shares these concerns. It takes the view that the manifest inadequacies in the assessments, relating not only to the scientific uncertainties but also to the failure of the EIS and PER to take adequate account of social and cultural impacts, ensured that ministerial approvals were bound to be premature. The arguments of the OSS that uncertainties would be resolved in the design stage fail to reflect the degree of uncertainty which still attends the cement paste technology and the possible resubmission of a 50-50 option for the disposal of tailings in surface pits and underground at Jabiluka.

4.173 It is clear to the Committee that the serious problems identified by the ANU scientists were only acted upon following the concerns expressed by the World

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

135 *Proof Committee Hansard*, Canberra, 11 June 1999, p 25.

136 *Proof Committee Hansard*, Canberra, 11 June 1999, p 29.

Heritage Committee's report and the international publicity that surrounded its mission. The Committee does not accept the assurances that these very serious problems would have automatically been resolved or addressed at a later stage. The Committee believes that environmental impact assessment by government agencies should be improved to ensure that the 'key technical errors and omissions' identified by the ANU scientists do not recur.

Enforcement

4.174 Of significant concern to the Committee in this inquiry has been the issue of whether the conditions placed on the mine's development and operation by the Government can be adequately enforced or, indeed, whether the Government intends that they be enforced.

4.175 It was explained to the Committee that under the EPIP Act and its administrative procedures, the requirements which the Commonwealth Environment Minister wishes to be placed on the mine are forwarded to the action minister, which at the time of the Jabiluka approvals was the Minister for Resources and Energy, Senator Parer. The action minister must then ensure that the suggestions or recommendations of the Environment Minister are 'taken into account in relation to the action'.¹³⁷ This obviously creates legal scope for the action minister to disregard or modify some or all of those recommendations.

4.176 The Committee was also told that, under the joint arrangement between the Northern Territory and the Commonwealth, the recommendations would be 'applied by the Northern Territory in the context of its regulation of uranium mining under the UMEC Act and the NT Mining Act. They would be enforced at a Commonwealth level by making compliance with the requirements a condition of the grant of licences to export milled uranium (yellowcake).'¹³⁸

4.177 Friends of the Earth (FOE) pointed to the way in which at least 22 of the original 77 conditions placed on the mine after the EIS were 'blunted' by the insertion of words requiring ERA to 'take into account the intent of' the recommendation, while the terms of a number of others were altered. FOE also pointed out that the words 'must comply with' were used in relation to only two of the recommendations. They argued that: 'the overall effect of the change in language between the Hill recommendations and the Parer recommendations is undoubtedly to make the "77 stringent requirements" less than binding and probably unenforceable.'¹³⁹

4.178 One example is the Environment Minister's recommendation 56, which stated that 'ERA must develop a cultural heritage management plan in consultation with Traditional Owners, and EA and relevant NT authorities, *prior* to project construction

137 Environment Australia, *Australia's Kakadu: Protecting World Heritage*, April 1999, p 35.

138 Mr Robin Bryant, *Proof Committee Hansard*, Canberra, 11 June 1999, p 38.

139 Friends of the Earth, Submission 43, p 7.

proceeding'. Minister Parer's recommendation, however, stated that: 'In complying with Jabiluka ERs 3, 6 and 32, ERA must take into account the intent of recommendation 56'.¹⁴⁰ The question of the enforceability of this recommendation has been thrown into relief by the decision of the Northern Territory Minister for Resource Development to grant construction permits for the decline and other works before the cultural heritage management plan was completed. The Mirrar-Gundjehmi refused to cooperate in the development of the plan while mine construction, including blasting and drilling, continued. ERA refused to suspend construction in order to complete the plan.

4.179 Evidence from representatives of the Commonwealth Department of Industry, Science and Resources made it clear that enforcement is dependent on ministerial *discretion* in the issuance of export licences and on monitoring by the NT under the UMEC Act. The Department told the Committee that while the Minister had written to the company advising it of the conditions that would need to be met should it wish to export yellowcake, ERA's compliance remained a matter that the Minister would consider when assessing applications for export permits. No formal legal conditions have been or will be incorporated into an export licence.¹⁴¹ In short, enforcement remains a matter of ministerial discretion at a time far removed from the initial construction of the mine.

4.180 The Committee was also told that the Commonwealth did not take up the option recommended by Senator Hill (in his letter to Senator Parer of 25 August 1998, indicating approval of the JMA) that compliance 'should be secured through legally binding arrangements – for example, by requiring ERA to enter into a Deed, by implementing the recommendations in conditions under Commonwealth or Northern Territory legislation, or through a combination of the above'.¹⁴² A Deed (which could have given the Commonwealth the capacity to act on any breach) has not been sought and reliance will instead be on the Northern Territory authorities. The effect of this has been to remove the Commonwealth's capacity to directly enforce the requirements outside the ministerial discretion in the area of export licences.¹⁴³

4.181 The Committee believes that this enforcement regime is manifestly inadequate – far from the 'legally binding' regime suggested by Senator Hill. It recommends that enforcement should be strengthened by:

- drawing up a Deed between ERA and the Commonwealth incorporating all those conditions so far suggested by the Minister arising from the EIS and PER; and
- the direct attachment of conditions to the issue of export licences to limit Ministerial discretion.

140 Government of Australia, Submission to World Heritage Committee, *Appendix 9.11: Summary Table of Ministers Hill and Parer EIA conditions and ERA progress*.

141 *Proof Committee Hansard*, Canberra, 11 June 1999, pp 42-43.

142 Senator Robert Hill, letter to Senator Warwick Parer, tabled correspondence, 25 August 1998.

143 Mr Robin Bryant, *Proof Committee Hansard*, Canberra, 11 June 1998, p 43.

Recommendation 9

The Committee recommends that in the event that the Jabiluka project proceeds, the enforcement regime should be strengthened by the implementation of a deed between ERA and the Commonwealth incorporating all the conditions put forward by the Commonwealth to this date, along with those recommended by the Supervising Scientist following further assessments. These conditions should also be made the explicit conditions of the issue of export licences by the Commonwealth.

Should There be an Inquiry into the Jabiluka Project Under Section 11 of the EPIP Act?

4.182 A key task of this Committee, as set out in paragraph (b) of its terms of reference, has been to ascertain whether an Inquiry under Section 11 of the *Environmental Protection (Impact of Proposals) Act 1974* is warranted in relation to the Jabiluka project.

4.183 A number of submissions to the Committee argued strongly that the Jabiluka project, and the process of its approval, be investigated by such an Inquiry. These included the Gundjehmi Corporation, Friends of the Earth, the Environment Centre of the Northern Territory, the Jabiluka Action Group, the Wilderness Society, the Australian Conservation Foundation, and the Northern Land Council. The Committee also received over 320 submissions from the public arguing for a Section 11 Inquiry. An Inquiry was opposed by ERA, the Northern Territory Government, Mr Mark Sonter and the Commonwealth Government.

4.184 The Committee has sought to make a careful and measured assessment of the evidence available to it. It believes it has identified serious flaws and deficiencies in the original environmental impact statements, in the assessment process applied to the Jabiluka project, in ministerial approvals, and in ongoing levels of assessment and regulation. Significant uncertainties remain in relation to tailings disposal, radiological protection and final project design. Crucial social and cultural impacts of the mine on the Traditional Owners of the Jabiluka area have been poorly assessed and, at worst, exacerbated by company and Government conduct. Australia has failed to fulfil its international obligations to protect the World Heritage values of Kakadu National Park. These problems, as they relate to both the Jabiluka project and the legislative and policy frameworks that govern the assessment and approvals process, require a full public Inquiry if they are to be properly and fairly addressed.

Recommendation 10

The Committee recommends that in view of the inadequate level of assessment applied to the Jabiluka proposals and the premature decision-making of the Action Minister, the Minister for Environment and Heritage establish a Commission of Inquiry into the Jabiluka project under Section 11 of the *Environment Protection (Impact of Proposals Act) 1974* (or under the equivalent provision of the Environment Protection and Biodiversity Conservation Bill, when proclaimed).