

## 4 Strategic roles of organisations

Historically, research on the environment of the ARR began in the 1970s under the leadership of the then Australian Atomic Energy Agency (AAEC now ANSTO). This was in the form of a joint government-industry Environmental Fact-finding Study of the ARR to collect the information necessary to describe the environment of the Region. The impetus for this study was the discovery (see section 2.3) of significant orebodies at Ranger, Jabiluka, Nabarlek and Koongara and the study was a precursor to the Ranger Uranium Environmental Inquiry.

Following the Australian Government's decision in 1977 to proceed with the mining of uranium in the Region, the principal organisations responsible for the conduct of research in the region have been *eriss*, Parks Australia (PA), Pan Continental Mining (prior to the sale of Jabiluka) and Energy Resources of Australia (ERA).

The strategic direction of research undertaken by Parks Australia is the optimisation of the management of the cultural and natural values of Kakadu. It does not carry out research on the impact of mining on the environment of the region.

The strategic direction of the *eriss* mining related research program is to provide advice on the protection and management of the Alligator Rivers Region to ensure that the region is protected to the standard demanded by the Australian community.

The *eriss* mining related program focuses on:

- developing and validating methods and models to measure impact of mining on people and ecosystems, and
- developing standards, practices and procedures for the protection of the environment from the effects of mining.

The strategic direction of the ERA research program is to apply site-specific best practical technologies to the mining operations at Ranger and Jabiluka.

The ERA program focuses on:

- efficient operation of the mining operation,
- rehabilitation of mining operations and disturbed ecosystems,
- protection of the local and regional environment,
- protection of the workers and the general public,
- identification of future land use operations that are compatible with the ecology of Kakadu and the desires of Aboriginal people.

It is clear that the research programs of ERA and *eriss* have different focal points. The ERA program is focussed on mine management issues but it has a significant emphasis on how management practices could affect the environment. The *eriss* program focuses on the development of, and provision of advice on, methods for assessing and controlling environmental impact.

There are areas in the two programs where there is no overlap of role and therefore no overlap in research. For example, ERA carries out research on mine production and management practices to minimise water and tailings storage requirements. This is a commercial issue and *eriss* has no role in it. On the other hand, *eriss* carries out research on which to base recommendations to the regulatory authority on environmental protection standards; for

example, radiological standards for the discharge of waters from the mine site. Being a regulatory issue, it would not be appropriate for the mining company to make such recommendations.

In other areas there is a commonality of interest but not of role. An example is research on the shape and structure of the final landform to minimise erosion. The *eriss* role in this case is to develop methods and models by which the long-term development of the landform through erosion processes can be estimated, primarily to ensure that tools are available to assess possible off-site impact. The ERA role is to optimise its landform design both to ensure cost-effective construction and to achieve best practice in protecting the environment. That is, the output of *eriss* research in this case can be viewed as a design tool for the mining company. Similarly, in the field of regional environmental research, ERA's program includes studies on regional ecological issues that relate back to the mine site; for example, research on fire management strategies that could be applied to rehabilitated areas of the mining lease. *eriss*, on the other hand, carries out research on regional issues that can be used to make recommendations on biological monitoring programs that should be carried out by mining companies and to provide managers of wetlands with the information that they need.

There are issues, however, in which both organisations have a legitimate interest and role. These are usually issues that arise at the boundary of the mine site and the off-site environment. An example is the treatment of waters to protect the off-site environment. Constructed wetlands have been used as a method of treatment. Such filters are constructed by the mining company on its lease and their operation is clearly the responsibility of the company. As a method of protecting the environment, however, assessment of the effectiveness of wetland filters could clearly be a legitimate responsibility of *eriss*. Whether or not *eriss* plays a significant role in cases like this will depend on a number of factors including the availability of resources, the expertise required (although this can be provided via consultancies if not available at *eriss*) and the desirability of having independent advice based on research of the Institute. The Technical Committee has a role to play in such decision making.

The NT Department of Business, Industry and Resource Development (DBIRD, incorporating the former Dept of Mines and Energy, DME) is the regulator of uranium mining in the Alligator Rivers Region. DBIRD does not have a formal research program into the effects of mining on the environment of the region but it conducts specific investigations on an *ad hoc* basis as required. DBIRD requires the operators of mines under its jurisdiction to carry out environmental monitoring programs and it formally reviews the results of these programs. DBIRD publishes a six monthly report on the results of these monitoring programs in the ARR and presents this report to the Alligator Rivers Region Advisory Committee.