Environment Centre NT
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30th July 2018
Senator the Hon Matthew Canavan
PO Box 6100
Senate
Parliament House
Canberra ACT 2600

Emailed to: senator.canavan@aph.gov.au

Dear Senator Canavan,

Environment Centre NT – Response to the Ranger uranium mine Closure Plan

We are providing below our comments on the Ranger uranium mine Closure Plan. The opportunity to make comments on the Ranger uranium mine Closure Plan was offered to us by the Supervising Scientist Keith Tayler on the 30th April 2018. We provide the following comments for your consideration also.

The Environment Centre NT (ECNT) is the peak community sector environment organisation in the Northern Territory, Australia raising awareness amongst community, government, business and industry about environmental issues and assisting people to reduce their environmental impact and supporting community members to participate in decision making processes and action.

ECNT welcomes the first public draft of the Ranger mine Closure Plan (RCP). After years of work behind the closed doors of the Technical Committees, this is the first opportunity the public has had to consider the detail of Energy Resources of Australia's (ERA) plans for rehabilitation post-mining.

We recognise this as a useful framework for iterative planning, assessment and monitoring of rehabilitation actions on a path towards closure. Although some considerable concerns are not yet addressed, they are at least acknowledged. We welcome the fact that ERA appear to have a realistic recognition of priorities, although perhaps an overly optimistic approach to meeting them.

ECNT maintain that a lack of public access to assessment and approval processes is a weakness, and represents less-than best practice. So we are particularly appreciative that ERA have chosen to publish this iteration of the RCP. We now seek further clarity on the processes that will apply in coming months and years, including further commitment to public visibility, but also a clear description of the intended decision process for future iterations of this plan, and additional submissions and applications.

We offer the following comments for consideration.

Process

ECNT are concerned at the scant opportunity for public scrutiny of, let alone access to, decision making for closure planning. With reference to the various engagement forums detailed in table 5-3, we are reminded that of those listed, the only ones accessible to the public are ARRAC (bi-annually) and the ERA information centre.

ECNT have made repeated representations via ARRAC regarding the lack of public access to the assessment and approvals process for closure works and certification. It was only by the tabling of Minesite Technical Committee meeting minutes at ARRAC that we heard, after the fact, of plans for closure workshops to explore approvals mechanisms for rehabilitation activities. ECNT had already previously described our keen interest in the question of how actions and management plans proposed in the context of rehabilitation might be assessed. It is regrettable to note that a role for public participation was never formally considered.

We maintain that ENGOs and the wider public have an important part to play in the assessment of any major environmental management approvals. We recommend that public participation is a fundamental feature of best practice decision making in pursuit of least-worst outcomes. We note that an EPBC referral was pursued in 2009 to allow public scrutiny of a program by Parks Australia to rehabilitate South Alligator legacy sites and consolidate wastes at El Sharana. And so it is disappointing to find, in Appendix 1.1 – approvals framework an explicit dismissal of any role for the highly useful and relevant assessment processes of the EPBC.

ECNT seek greater clarity regarding just what assessment and approval processes will apply, up to and beyond the closure date.

We understand that the RCP will be subject to annual review, with substantial change resulting in submission to the Supervising Authority (the Northern Territory Department of Primary Industry and Resources) for approval. It is not clear when an NT government may move on long-standing commitments to open up the processes of the Mining Management Act to public scrutiny. ECNT recommend that it is essential that the public have access to this process of annual review and are able to make comment regarding revisions of the closure plan.

We note that a number of highly significant features of closure are relegated to later ‘standalone’ applications:

- Final landform and revegetation (Q3 2018)
- The whole of Pit 3 closure (31 Jan 2019)
- R3D backfill (30 Nov 2019)
- Decommissioning of the tailings dam (1 Dec 2019) – significantly, this includes: assessment of groundwater plume (including modelling of behaviour during and after dam deconstruction)
- An application to change deposition method to sub-aqueous is imminent.

Yet the RCP lacks detail on the process for assessment and approval of the above applications. ECNT recognise these as highly significant features that are as deserving of

public scrutiny as the RCP itself. We recommend that the RCP should detail an assessment process that includes public exposure of the draft applications and their assessment reports.

Further, section 5.3 reports that socio-economic transition will be the focus of work in the next phase of stakeholder engagement while section 5.5.1 acknowledges: key decisions on Jabiru's future and ERA's workforce are required, which is likely to occur in mid-2018. We recognise that these decisions could have implications on ongoing planning for other objectives of the RCP, and as such we would like to be able to follow their progress.

The process for assessing the final decommissioning report should also be fully described, and should include public scrutiny of draft submissions and assessment reports.

It is understandable that, in the absence of local NT Mine Closure Plan Guidelines, the RCP is referring to relevant sections of the Western Australian guidelines. But that does not justify ignoring prior local experience of failed rehabilitation in the NT, and any best practice standards set by the recent rehabilitation works and planning. The RCP should make explicit reference to what went wrong at Rum Jungle in the past, and where appropriate compare the WA guidelines to the current rehabilitation plan there.

Contingency

We believe the RCP suffers from a general lack of contingency planning.

The RCP identifies significant risks that are then not fed back into the actions and objectives contingent on them. Similarly, the inherent risk in significant areas of rehabilitation that are relegated to subsequent approval of standalone applications do not feed back into the wider plan. It is entirely understandable that outcomes of ongoing studies will amend and augment the plan, however where these gaps have been identified, we should explore the accompanying risk, and entertain likely contingencies that may be required in response. We suspect that much of this work has been done, just not included in the public plan. ECNT recommend that it is important for significant contingency planning to be visible, so that all stakeholders can be confident in the robust integrity of the RCP.

The closure criteria report states that it is expected that after the first five years there will be less erosion occurring, and it seems that plans for radon and dust monitoring do not extend beyond those five years. But the plan should make this explicit, and note an expectation that this monitoring will be extended if erosion effects take longer to subside. It might also be worth considering circumstances under which it would be wise to extend the period of continuous monitoring beyond one week of the dry season.

It is notable that only one run of external gamma radiation dose rate measurement is anticipated. It would seem appropriate to describe circumstances, such as landform performance, in which the airborne survey or soil sampling might be repeated.

Monitoring period

The RCP references a 25 year monitoring period. This significant planning feature is merely referred to as a given, rather than examined and justified. While it is understandable why stakeholders may prefer to set a time period rather than observable indicators to delimit the post-closure monitoring period, this should nonetheless be based in reason.

If ERA are strongly committed to a 25 year monitoring period, they should describe how this relates to expected effects and outcomes on site. These might include considerations such as:

- maturation of revegetation
- stabilisation of erosion to within certain confidence
- load of sediment leaving the landform
- sulphate migration due to plumes
- stabilisation of other contaminant trends

Twenty-five years may be a reasonable ambition for the duration of 'active' monitoring (however we note that current closure plan for McArthur River includes 'proactive management' for over 100 years). By grounding the proposed monitoring period in expected environmental outcomes, all stakeholders will have a reasonable appreciation of the conditions and circumstances in which that period may need to be extended.

Tailings Plume

ECNT have repeatedly raised concerns and queries through ARRAC regarding the estimated 1Gl of contaminated water that has been lost through the floor of the leaky tailings dam. It is understood that this contaminated water has formed a plume, with little migration and interaction. In response to our questioning, it has been described that this plume will remain where it is, until the final stages of decommissioning, when the majority of tailings have been removed, lessening the influence of its pressure on the water below.

We remain keenly interested in how ERA will manage the likely behaviour of this hazard as the tailings are removed. Yet this draft of the RCP says little about this, or related features of the tailings dam deconstruction, all of which are relegated to a later standalone submission.

The risk assessment chapter does give an appropriate risk rating to this feature, and it is noteworthy that this is the only risk identified to have ineffective controls (ie C4 rating). The draft before us gives next to no detail on what management actions may be applied directly to the plume, and the likely behaviour of that contaminated water as the hydraulic head of tailings is reduced. While it is understandable that further work is required to accurately describe the full detail of intended plans for managing this significant feature of rehabilitation, it is not appropriate for this (late) draft of the RCP to leave risks associated with the plume unaddressed, interdependent as they are with other anticipated changes on site.

The discussion of the site water model (3.2.9.6) doesn't even mention the tailings plumes. Neither does section 10.2 on water treatment, nor the tailings management milestones (table 10-8). The discussion of tailings dam closure risks (10.4.1) briefly acknowledges the high

risk of migration of contaminants from tailings dam plumes, and gives the assurance that the rate of migration will decrease due to the substantial reduction in hydraulic gradient.

ECNT fear this may turn out to be an unhelpful oversimplification of the altered behaviour of water as the site is reconfigured.

Contaminated soils – LAAs and Wetland filters

It is with some surprise we recognise that ERA plans to leave Land Application Areas and Wetland filter experiment sites in place post-closure, with the implementation chapter describing water from the treatment plant discharged to available wetland filters and LAAs until 2025.

The risk assessment chapter recognises the risk of potential contamination from these sites, including possible migration of COPC from soil to surface water pathways via erosion and runoff, and migration of COPC via shallow groundwater and/or surface water pathways - but evaluates these risks as unlikely, low impact and lowest classification. We are informed remediation plans will be developed during the feasibility study.

7.7.1.11 LAAs Conceptual Model assures us that conceptual site model predicts that for all LAAs, groundwater chemistry is expected to show very limited to no impacts from land application at the time of site closure. But this merely shows that land application areas have 'worked' as hoped, so far. This is not sufficient basis for a final decision about closure configuration.

When section 10.5.1 Contaminated Sites Closure Objectives and Risks, explores the risk of migrating contaminants from the LAAs, past studies of the storage and transport of contaminants are cited. These show retention of applied radionuclides in the soils, with most currently posing very low public radiation dose. These studies are presented as indicating that no remediation for radiological contamination is required – quite contrary to the intent described to the public on the innovation, and expansion, of land application during operation.

We were earlier informed that contaminated soils would be buried with tailings. It is puzzling that evidence that the LAAs have performed as hoped is now being presented as justification for leaving them in situ. The fact that this infrastructure has not presented a significant hazard over the course of operation is not grounds for accepting this risk over the 10,000 years of Objective 2.

We're interested to consider whether there may be any interaction of mobilised plume water and the contaminated soils of those areas in proximity, such as the Corridor Creek. Experience suggests that mobilisation of sulphates from below the contaminated soils could alter the nature of the hazard these areas present. ERA should describe in detail the likely risks of remediation options including remote burial or in-situ filling of the contaminated soils, and compare these to the risks of these hazards worsening over the legislated 10,000 year period.

Closure criteria – surface water

We welcome the grounding of these criteria in the existing compliance framework. The revised monitoring program, including an additional point downstream of the confluence of Gulungul, seems appropriate. It is interesting to note that the decision tree proposed for this may tolerate higher contamination incidences and loads than have been experience during operation. The sad path of the decision tree leads to the ultimate predicate of: change detrimental to eco-system health or processes. This decision pathway renders the draft criteria merely incidental, offering no procedural impediment to abandoning the COPC concentration criteria for … what exactly?

The role of biodiversity monitoring during operation has been as an early warning indicator, rather than a substitute for concentration criteria. It is not at all clear how existing experience and knowledge of biodiversity effects might best inform decision making in the face of failure to maintain contaminants within those concentrations set by the criteria. The RCP rightly acknowledges the need for improvement. ECNT recommend that, while there is merit in drawing upon biotic indicators, these criteria should ultimately be expressed in terms of contaminant concentrations.

This concludes our comments on the Ranger uranium mine Closure Plan. We appreciate the opportunity to comment and your consideration of the issues we have raised.

Warm Regards

Justin Tutty

Shar Molloy
Director

Justin Tutty
ECNT Representative on Alligator Rivers Region Advisory Committee