



**ERA** Energy Resources of Australia Ltd

## 11 Financial provision for closure



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Cover photograph: Cluster Fig (*Ficus racemosa*) recruit on the trial landform (2020)



## GLOSSARY

Below are key terms that are used in this section.

Key term	Definition
Annual Plan of Rehabilitation	High level plan used to determine the securities amount to be held by the Commonwealth Government for Ranger Mine rehabilitation obligations.

## ABBREVIATIONS & ACRONYMS

Below are abbreviations and acronyms that are used in this section.

Abbreviation/ Acronym	Description
APR	Annual plan of rehabilitation
BC	Brine Concentrator
ERA	Energy Resources of Australia Ltd
HDS	High Density Sludge
MCP	Mine Closure Plan
PFS	Prefeasibility Study
RPA	Ranger Project Area
TSF	Tailings Storage Facility
WTP	Water Treatment Plant



## 11 FINANCIAL PROVISION FOR CLOSURE

### 11.1 Rehabilitation provision

The Energy Resources of Australia Ltd (ERA) rehabilitation provision as at 30 June 2020 was \$744 million.<sup>2</sup> The calculation of the rehabilitation provision relies on estimates of costs and their timing to rehabilitate disturbed land to a condition similar to the surrounding environment. It should be noted that the rehabilitation provision also includes costs which are outside the scope of the Ranger Mine Closure Plan (MCP), such as Jabiru head-lease expiry related costs, staff redundancies and various corporate costs.

The Ranger rehabilitation costs are estimated on the basis of this MCP and the closure model, taking into account considerations of the technical closure options available to meet all ERA obligations. The provision for rehabilitation represents the net present cost at 30 June 2020 of the preferred plan within the requirements of the Ranger Authority.

The closure model is based on the closure feasibility study, completed in February 2019, which expanded on the previous prefeasibility study (PFS) completed in 2011. Key packages of work completed since 2012 include preliminary Pit 3 backfill, Pit 1 capping and design, construction and commissioning of the tailings dredging system. The feasibility study has increased the level of certainty regarding forecast rehabilitation expenditure.

Major activities to complete the rehabilitation plan include: material movements, water treatment, tailings transfer, demolition and revegetation. Major cost sensitivities include material movements, water treatment and tailings transfer costs.

The ultimate cost of rehabilitation is uncertain and can vary in response to many factors including legal requirements, technological change, weather events and market conditions. It is reasonably possible that outcomes from within the next financial year that are different from the current cost estimate could require material adjustment to the rehabilitation provision for the Ranger Project Area (RPA).

Selected downside sensitivities on the Ranger rehabilitation provision are detailed below.

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<sup>2</sup> The 30 June 2020 provision discounted at 2 per cent and presented in real terms (\$785 million undiscounted in real terms).

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### 11.1.1 Process water

In order to increase process water treatment capacity, ERA has progressed the recommissioning activity of the High Density Sludge (HDS) plant, the commissioning of the Brine Squeezer (including preparing for process water treatment trials) and the Brine Concentrator Expansion Project. The recommissioning of the HDS plant has been impacted by both the timing of external consents and a number of technical commissioning issues. Subject to future process water inventory volumes, this may necessitate the HDS operating for longer than previously planned. The Brine Squeezer commissioning has progressed, albeit with production limited due to low pond water volumes at present. Trials to evaluate the potential for the Brine Squeezer to treat process water are planned for the second half of 2020. The Brine Concentrator Expansion Project is progressing with commissioning expected in quarter 1, 2021.

Additional process water volumes are sensitive to many factors and any additional water would require treatment through the ERA process water treatment infrastructure, primarily the Brine Concentrator (BC). Water volumes can vary due to:

- additional rainfall above an average wet season
- the performance of water treatment plants (WTPs), including new smaller scale plants that are yet to be commissioned
- the timing of closure of which water catchments occurs, and
- the volume of water expressed from tailings.

If water treatment volumes exceed the available capacity, it may be necessary to expand treatment capacity. This may involve the construction of an additional BC plant or other alternate technology. This has not been allowed for in the estimate and would come at significant additional cost. Furthermore, any significant delay may further compress the schedule requiring alteration to other closure activities.

### 11.1.2 Bulk material movement

Pit 3 bulk material movements are sensitive to the volume of material which is to be moved and the schedule of movement.

### 11.1.3 Tailings transfer

Tailings transferred from the Tailings Storage Facility (TSF) to Pit 3 are sensitive to the characteristics of the tailings being moved. During the first half of 2020, the productivity of the dredging operations was constrained due to ongoing interstate travel restrictions in place as a result of the COVID-19 pandemic and lower free process water volumes. ERA has now implemented a revised dredge plan which reduces the potential impacts of lower free process water volumes through the remainder of the year.



#### 11.1.4 Tailings consolidation

Following the completion of transfer of tailings to Pit 3, the final capping of Pit 3 will commence. During the capping process the tailings in Pit 3 will consolidate and express process water that will need to be collected and treated. The consolidation process will be aided by installing vertical wicks and the knowledge of the consolidation timeframes is backed up by a detailed model based on *in situ* testing of tailings. The consolidation model accuracy and predictions of rates of process water expression is impacted by many factors including; tailings density and other characteristics, deposition method and free process water volume in the pit during deposition.

ERA continues to monitor the rate of tailings consolidation in Pit 3 compared to the consolidation model assumed for the purposes of the closure feasibility study. It is becoming apparent that a greater proportion of process water is being retained within the tailings than planned.

#### 11.1.5 Other factors

In addition to the factors identified above, the estimate is sensitive to many additional items, including: evaporation rates, stakeholder requirements, brine salt disposal, TSF conditions, engineering studies, plant mortality and project support costs.

In estimating the rehabilitation provision a risk-free discount rate is applied to the underlying cash flows. At 30 June 2020, the real discount rate was 2.00 per cent.

ERA considers further specifics of the closure cost estimate to be commercially sensitive information.

### 11.2 Government agreement

Separate to this MCP, each year ERA prepares and submits an Annual Plan of Rehabilitation (APR) to the responsible Commonwealth Minister for assessment and approval in accordance with the Ranger Uranium Project Agreement between ERA and the Commonwealth Government (Government Agreement). The specific purpose of the APR is to determine the securities amount to be held by the Commonwealth Government for Ranger rehabilitation obligations; these funds are held in the Ranger Rehabilitation Trust Fund. Once the APR is accepted by the Commonwealth Government, the APR is independently assessed and costed and the amount to be provided by ERA into the Ranger Rehabilitation Trust Fund is determined.