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Arafura Rare Earths Water Licence Application

The Arid Lands Environment Centre (ALEC) is Central Australia's peak environment organisation that has been advocating for the protection of nature and growing sustainable communities in the arid lands since 1980. ALEC actively contributes to the development of water policy and planning through written submissions and active participation in water advisory committees. Our advocacy around water resources is focused on ensuring the equitable and sustainable use of water resources to maintain full ecological function.

ALEC welcomes the opportunity to provide comments on Arafura Rare Earths Pty Ltd (Arafura) water extraction licence application (the Application). ALEC's submission first goes through the background of the water licence application. Then, it focuses on the severe lack of information that is made publicly available. Finally, uncertainty and procedural fairness issues are considered, as well as concerns regarding the Water Allocation Planning Framework (WAPF), adaptive management and monitoring.

Due to capacity constraints and time of year, this submission is brief and high-level.

1. Background: Arafura water licence

Arafura seeks to extract up to 4800ML of water per year for 40 years between 2022 and 2062. Pumping is scheduled to begin in November 2022. The development will reach full pumping capacity after two years, where 400ML will be extracted per month between October 2024 and continue until September 2062. It is noted that expected water demand is actually 334ML per month, but that 400ML provides a safety net in case water demand is required to increase. The water will be extracted from mining leases across two pastoral stations: Aileron PPL 703 and Napperby PPL 747/748.

Groundwater will be accessed from the Reaphook paleovalley and the underlying Ngalia basin aquifers. These water sources form part of the Southern Basins. The proponent also seeks to extract water from the mining site, although this will be addressed in a separate water licence application. There are no groundwater licences in this area. Similarly, this region lies outside of any existing water allocation plans. It will then be governed by the *Northern Territory Water Allocation Planning Framework*.

Groundwater will be used in:

1. Constructing the open-pit mine;
2. The ore processing facility and associated infrastructure;

3. Project accommodation and associated infrastructure.

The development proposes 17 production bores across 6 borefield clusters (5 existing, 1 new). These borefields will be accompanied by monitoring bores. There could be up to 29 Reaphook production bores, dependent on water availability at the mine site and production yields of the initial bores.[1]

The target demand from the Southern Basins is 4000ML, but the upper limit of demand is 4800ML per year. The proponents state that due to high costs of pumping and transportation it is in their interest to limit wanted demand from the Southern basins.

ALEC notes that the proponent has already had its environmental impact assessment approved, with the draft EIS made publicly available in 2016.

2. Access to information

a. Issues related to the Arafura licence

The majority of key documents related to the Arafura licence have not been made publicly available. Notably, all nine attachments have not been made publicly available. These are:

Attachment 1: Description of Resource
Attachment 2: Hydrological Assessment
Attachment 3: Numerical Groundwater Model
Attachment 4: Reaphook Borefield Development Program
Attachment 5: Water Monitoring Plan
Attachment 6: Water Use Monitoring and Impacts Reviews
Attachment 7: Water Management Plan
Attachment 8: Monitoring Program - Potential Groundwater Dependent Ecosystems (GDEs)
Attachment 9: Water Abstraction Management - Existing Users

It is presumed that this information has not been made publicly available due to Arafura having "completed and attached an application to have commercially confidential information withheld".[2] It is unclear how any stakeholder is meant to provide substantive commentary to the Territory Government when the most important up to date information has not been made publicly available.

While information from the draft EIS is publicly available, this is from 2016 and significant changes have occurred. For example, the water licence that was assessed originally was for 2.7-3.2 GL in 2016, the revised licence that was updated in 2019 was for 3.4GL, while this licence is for 4.8GL in 2021.[3] As was noted in 2019 "ongoing groundwater modelling of the borefield is being undertaken to increase confidence in understanding Southern Basins and the likely responses to the projects water demand for the duration of the project and beyond. A water abstraction management plan has been developed to provide guidance on how this

[1] Nolans Bore Reaphook Borefield Application: Expanded Information, p.18. Arafura Resources Limited.
[2] Arafura Rare Earths Form 45/ 60, p.7. 14. Public register.
[3] Arafura Resources Ltd Nolans Project Section 14A Notification June 2019, p. 14.

resource will be managed".[4] It is therefore not unreasonable to expect updated and relevant information to be attached to a water extraction licence application. At a minimum, it would be hoped that key information would be summarised as part of the water extraction licence for the public, if the attached documents (1-9) could not be made publicly available.

These questions cannot be answered by assessing the information that has been made publicly available in the licence application.

- What GDEs are going to be impacted by this groundwater extraction licence?
- How have GDEs been identified and accounted for (i.e. remote sensing only, or has there been research conducted on site)?
- Are alluvial or sandplain soil types present in the impacted area?
- How much water is available in the Reaphook paleovalley?
- How much groundwater depletion will occur as a result of extraction?
- Where will this depletion occur?
- How many GDEs are present in the region where groundwater depletion will occur?
- How will the groundwater resource respond to extraction?
- Are there any threatened species or ecological communities in the impacted area? If so, what?
- What is the rigour and precision of the groundwater model?
- Who conducted the groundwater model?
- What groundwater monitoring has already occurred in the region?
- What groundwater extraction tests have already occurred?
- What risks are associated with this groundwater extraction? What is the proponent doing to mitigate these risks?
- Has the proponent developed an adaptive management plan? If so, what are the adaptive management triggers?
- Has the change in the size of the licence altered its potential impacts?

Without the key documents made publicly available, we do not know. While some of these questions can be potentially answered through the 2016 draft EIS, this information is outdated and is unclear to what extent it is still applicable. It would be somewhat speculative to rely on this 2016 information when there is updated information from 2021. The proponent has been monitoring the groundwater system ongoing so that they better understand the system. The public has a right to know the impacts of this development upon the groundwater system and GDEs.

b. Water licences are in the public interest

The objects of the *Information Act* 2002 are explicit, s. 1(a) states that the objects of the Act are "to provide the Territory community with access to government information".[5] It goes on to state in s. 1(a)(ii) that "creating a general right of access to information held by public sector organisations limited only in those circumstances where the disclosure of particular information would be contrary to the public interest because its disclosure would have a prejudicial effect on essential public interests or on the private and business interests of persons in respect of whom information is held by public sector organisations".[6]

[4] Ibid, p.14.
[5] *Information Act* 2002, p. 1.
[6] Ibid, p.1-2.

It is unclear why the public's interest in this matter have been entirely usurped by the proponents' desire to keep this information commercial in confidence. As per s.95 of the *Water Act* 1992, the Water Controller can be "satisfied" that information does not need to be made publicly available due to commercial confidentiality.[7] However, when the majority of key information has not been made publicly available, it builds a perception that the interests of industry are held to a higher regard than that of the public and other relevant stakeholders.

The Arafura licence is clearly relevant to the public. It is a large water licence that is occurring in a region with no other water licences, outside of a water control district. It is a greenfield district for water extraction. This increases the need for a precautionary approach to be taken. As discussed above, changes have been made to the water licence compared to what was assessed in 2016. It remains unclear how much information is known about the groundwater system, how the aquifer will respond to extraction, what is the presence and absence of GDEs, and how groundwater depletion will impact these areas. For the public and key stakeholders to provide meaningful comment, they need to be informed about the development, its geography and its potential impacts.

3. Uncertainty and procedural fairness issues

The proponent states that there is uncertainty in the number of bores which will be required to be drilled for the development. Page 17 of the Application states that "a total of 17 production bores including the use of existing production bores… Should these bores prove incapable of meeting project demand, then additional borefield clusters and additional high standard permanent production bores may be required".[8] Page 18 states that up to 29 bores may be used in the project.[9]

This uncertainty does not meet procedural fairness tests. The Minister in their decision to overturn water licence application TLAM10002 at Larrimah reiterates this. The Minister responsible stated that

> "the Review Panel also found that there were procedural deficiencies in the information provided to the Controller to make the Decision. Specifically the department failed to provide procedural fairness to interested parties through complying with the requirements of s. 71B(3)(b)(iii) of the Act. The Review Panel found that the department did not provide sufficient detail of the location of the proposed bores to enable adjacent landholders and other interested stakeholders to determine potential impacts on their rights".[10]

This issue was considered a "key relevant factor" by the Minister in overturning the decision, they went on to clarify that due to these factors "a new decision has been made to not grant the licence, considering it should have been the decision that the Controller should have made in the first instance.[11] The proponent has not provided sufficient certainty to adjacent landholders and other key stakeholders regarding their borefield design as required under s.

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[7] *Water Act* 1992, p.68.
[8] Nolans Bore Reaphook Borefield Application: Expanded Information, p.17. Arafura Resources Limited.
[9] Ibid, p.18.
[10] Section 30 Review of a Water Extraction Licence Decision: TLAM10002, p.3.
[11] Section 30 Review of a Water Extraction Licence Decision: TLAM10002, p.4.

71B(3)(b)(iii). To be clear, the Act states that "the notice must include the following information: (b) if the application is for the grant of a water extraction licence - the following details: (iii) the point of the waterway, or the bore, from which the water will be taken".[12]

In addition, the Application states that the proponent intends to apply for an additional two water licences to support the Arafura Rare Earth mine development. Without having full access to the attachments and knowing what the future water licences will be, it is difficult to understand the full extent of environmental impacts from these water licence applications. ALEC would think that for the Water Controller to undertake their function in accessing a water licence, it would be relevant for all licences to be considered holistically.

4. Water allocation planning framework

The water allocation planning framework (WAPF) states that "there will be no deleterious change in groundwater discharges to dependent ecosystems, and total extraction over a period of at least 100 years will not exceed 80 per cent of the total aquifer storage at start of extraction".[13] ALEC recommends that the Water Controller doesn't just rely on volumetric qualifications, but also consider the impacts of extraction upon the standing groundwater levels and the potential impacts of groundwater depletion on GDEs. The WAPF is 21 years old, is outdated and is not based on best scientific practice. ALEC considers it essential that the Water Controller consider the Application's impact more broadly outside of what is required in the WAPF.

The EDO considers "water law and governance in the NT to be amongst the poorest in the country".[14] This is due to weaknesses in water allocation planning, and a lack of binding provision in the *Water Act* 1992. Water licensing in the Northern Territory is far from best practice, and is almost completely discretionary. Licences outside of Water Control Districts have even less scrutiny and oversight.

5. Adaptive management

This licence makes no comment on adaptive management. This has been a key natural resource management tool that has been used to justify other large-scale water extraction licences (e.g. at Singleton Station). In handing down their decision regarding the Singleton Station Water Licence decision, Minister Kate Worden stated:[15]

> "The Review Panel noted the key aspect of an adaptive management plan is that it must be able to respond to triggers of potential impacts, not just triggers of observed impact, and that management actions must be able to respond such that unacceptable impacts are avoided. The Licence deals with this matter by requiring that the Licence Holder has an approved monitoring plan and adaptive management plan in place before any water extraction occurs under the licence… in the Review Panel's opinion, incorporating an adaptive management framework into licence conditions is consistent with the Plan and appropriate for achieving the objectives of enabling water extraction for consumptive use whilst meeting the environmental water requirements of non-consumptive uses".

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[12] *Water Act* 1992, p. 51-52
[13] Water Allocation Planning Framework, p.2.
[14] Deficiencies in the existing water law and governance framework in the Northern Territory, p.1.
[15] Section 30 Review of a Water Extraction Licence Decision: WDPCC10000, p.8.

At a minimum, ALEC considers it key that an adaptive management plan is also required for this Application. This is especially important since the Application is in a region with no other water licences, and a limited understanding of the groundwater system. Due to the lack of binding provisions under the *Water Act* it is up to the Water Controller's discretion.

6. Monitoring

Without access to key information it is difficult to comment on the monitoring regime. ALEC would like to reiterate the importance of monitoring in ensuring water resource management is safe, sustainable and operating as intended. ALEC holds concerns that monitoring is becoming the responsibility of proponents rather than a comprehensive task that is undertaken by the Department.

7. Conclusion

It is difficult to provide substantive comment when key details have not been made publicly available. The information provided publicly in this licence is significantly inadequate. It does not address key issues around water resource management in the region. It is not possible for ALEC to provide a comprehensive contribution on this water licence application as up to date information is not available.

This licence highlights key issues with water resource management in the Northern Territory. In areas without water allocation plans there is a substantial deficit of knowledge that exists publicly. In addition, there can be substantial variation between what information is included in relation to water licence applications across the Northern Territory.

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