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To the Director

## **RE: CRITICAL MINERALS PRODUCTION TAX INCENTIVE CONSULTATION PAPER**

I refer to the Critical Mineral Production Tax Incentive Consultation Paper (**Paper**) issued on 28 June 2024. Arafura Rare Earths Ltd (**Arafura**) supports the introduction of the proposed Critical Minerals Production Tax Incentive (**CMPTI**) to boost Australian downstream value-add critical minerals projects like Arafura's Nolans Project (**Nolans or Project**) and welcomes the opportunity to respond to select consultation questions issued by Treasury.

The question numbers used below correspond to the question numbers in the Paper.

### **3. How long do you expect it will take for processing and refining facilities to reach first production following FID?**

There is a 37-month construction window for the Nolans Project following a final investment decision being made. Operating activities are expected to commence 4-months prior to the end of this construction window.

### **4. Please provide feedback on the proposed eligible expenditure.**

Arafura is broadly supportive of the proposed eligible expenditure buckets which are detailed in the Paper. However, the Paper notes depreciation of capital items is proposed to be an ineligible cost. Rare earth and other downstream critical minerals projects are inherently capital intensive which is one of the key barriers to entry for new projects. In recognition of this and the ongoing sustaining capital required to keep downstream manufacturing facilities operating effectively and safely, depreciation expenses should be classified as eligible costs to the extent the depreciation relates to the downstream component of the respective facility.

Operating entities maintain a fixed asset register that is often broken down by plant area which would assist in apportioning the depreciation expense as required.

The inclusion of depreciation costs as eligible costs would also be consistent with the Manufacturing Production Tax Credit available under the Inflation Reduction Act in the United States.

**5. Please provide feedback on where you draw the line between mining and primary processing and mid-stage processing.**

Arafura's Nolans Project will encompass a standard open cut mine and an advanced integrated manufacturing facilities that will process rare earth ore through to separated rare earth oxides. Figure 1 details the key stages in the rare earth value chain at the Nolans Project. Arafura identifies mining and primary and mid stage processing as follows:

- **Mining:** Mining operations are easily separable from processing activities which will occur at the Nolans manufacturing facility approximately 10km from the Nolans mine site.
- **Primary Processing:** Beneficiation is the primary processing which will be undertaken at Nolans. The beneficiation stage will comprise a simple flotation circuit.
- **Mid-stage processing:** Rare earth extraction is the mid stage processing which will be undertaken at Nolans. This process involves complex hydrometallurgical processing which will convert the mixed rare earth concentrate into an intermediate mixed rare earth chloride product which will feed the separation plant. While the extraction stage may be classified at mid-stage processing prior to final rare earth oxide separation, the extraction stage is complex and by far the largest contributor to both capital and operational costs at Nolans.

**Figure 1 – Rare earth value chain at Nolans**



**6. Are there any competitive neutrality considerations to ensure the CMPTI treats different projects fairly and does not distort commercial decision-making? For example, how should capital costs for power generation be treated for facilities that produce their own power?**

Arafura believe the classification of depreciation expense as an eligible cost would assist with neutrality issues between different contracting models which may be used to deliver specific contract packages in critical minerals projects.

For example, Arafura is proposing to deliver the power station at Nolans via a build-own-operate (BOO) model. Under the BOO model a 3<sup>rd</sup> party independent power provider would fund the construction of the power station which would then be recouped from Arafura via a monthly capacity charge. Effectively, this converts the upfront capital cost of the power station into an ongoing operating cost for Arafura which may be deemed an eligible cost under the 'utilities' bucket.

Including depreciation costs as an eligible cost would address this issue as a CMPTI would be received on either the depreciation cost from constructing the plant or via the capacity charge from the independent power provider.

**8. What reagent costs should be eligible?**

All reagent costs associated with downstream processing should be included as an eligible cost. Any reagents associated with initial processing required to produce the 'feedstock' for downstream processing should be classified as ineligible costs. Reagents which are consumed in both initial and downstream processing should be apportioned on an appropriate and reasonable basis (refer to Q19).

### **9. What costs associated with the treatment, enrichment or disposal of waste should be included? Why?**

All costs associated with waste management should be included as eligible costs. Arafura has received environmental approvals at both the state and federal level which required the approval of waste management plans which will be implemented to ensure tailings are safely managed and stored. Adherence to these plans is critical to ensure compliance with relevant operational licensing.

Additionally, Arafura's customers, financiers and other stakeholders have a high level of interest in Arafura's environmental credentials which must be appropriately maintained to ensure the Project is supported by all stakeholders.

The inclusion of waste management as eligible costs would recognise its criticality in relation to operating a safe and successful downstream project.

### **11. What intellectual property (IP) arrangements are adopted by critical minerals processors? What treatment should apply to the payment of royalties? What measures could be put in place to manage integrity risks?**

Arafura rightfully owns all IP which will be used at the Nolans Project and there is no 3<sup>rd</sup> party IP arrangement in place or proposed for the Project.

### **12. Which critical minerals are currently processed in Australia? To what grade?**

In relation to rare earths, the only operating rare earth mine is Lynas' Mt Weld mine in Western Australia. Lynas have historically performed mining and beneficiation in Australia to produce a concentrate which is processed into separated oxides at the Lynas Advanced Materials Plant (**LAMP**) in Malaysia. Lynas are currently ramping up production at a new cracking and leaching facility in Kalgoorlie, Western Australia which will produce an intermediate mixed rare earth product which will be processed into separated oxides at the LAMP in Malaysia.

Currently there is no production of separated rare earth oxides in Australia.

### **13. Of Australia's 31 critical minerals, what are the current common market requirements for processed outputs?**

Neodymium-Praseodymium (**NdPr**) oxide is the main rare earth product that will be produced at Nolans and will account for approximately 90% of project revenues. There are general market standards for NdPr oxide purity which include minimum grade and maximum impurity requirements. The common minimum grade requirements for NdPr oxide covers:

- The total rare earth oxide (**TREO**) percentage by weight in the NdPr oxide product (i.e. TREO wt% / product wt%).
- The percentage by weight of NdPr in the TREO contained within the NdPr oxide product (i.e. NdPr oxide wt% / TREO wt%).

Additionally, the maximum impurity level requirements cover various elements including iron, calcium, magnesium and aluminium.

**14. What is the form of the raw critical mineral when it arrives at your facility and what is its state when it leaves your facility?**

As discussed under Q5, Arafura is adopting an ‘ore to oxide’ processing model at Nolans. The critical raw material that arrives at the Nolans integrated manufacturing facility will be run-of-mine ore which will grade ~3% TREO. The run-of-mine ore will be processed into the following three final products:

- NdPr oxide with a purity of >99%.
- A mixed middle and heavy rare earth oxide product, SEG-HRE, with a purity of >99%.
- A merchant grade phosphoric acid product which is produced as a by-product during processing from the phosphate contained within the run-of-mine ore.

**15. Can you provide details on the full workflow process to convert the raw critical mineral to the end-product(s) in your facility? Does the workflow process involve beneficiation?**

Please refer to Appendix 1 for a diagram of the high-level flowsheet Arafura will implement at Nolans to convert run-of-mine ore into separated rare earth oxides. The flowsheet includes a simple beneficiation circuit which will upgrade the run-of-mine ore from a TREO grade of ~3% to ~6% in the mixed rare earth concentrate.

There is a wide range of mixed rare earth concentrate grades that can be produced from beneficiation depending on the geology of the mineral resource. For example, MP Materials operate the Mountain Pass Mine in California and produce a concentrate with a TREO grade of approximately 60%.

An appropriate point in processing will need to be selected to identify when the rare earth ‘feedstock’ has been developed and refining activities commence for the purposes of calculating eligible expenditure for the CMPTI. Consideration should be given to whether it is appropriate to classify a mixed rare earth concentrate as a ‘feedstock’ given high grade concentrates can be produced. A more appropriate ‘feedstock’ may be the run-of-mine ore.

The Nolans rare earth manufacturing facility is an integrated facility and there may be some complexities apportioning mix-used costs between the beneficiation plant and remainder of the facility. This issue is addressed by deeming the run-of-mine ore as the ‘feedstock’ for the purposes of the CMPTI. Additionally, the beneficiation plant contributes only a modest proportion to overall operating costs.

**16. What are the associated costs (e.g., reagents and consumables, labour, utilities, maintenance, logistics/transport, waste, etc.) for each processing stage undertaken in your facility?**

The expenditure types at Nolans are consistent across processing stages and can be grouped as follows. The expenditure types are broadly consistent with the expenditure types listed in the Paper.

- Labour Costs.
- Reagents.
- Consumables.
- Utilities.
- Transport and logistics.
- Maintenance.
- Laboratory costs (refer to Q21).

**17. Does the end product undergo any further processing after it leaves your facility? Can you provide more details regarding the next steps and/or process?**

Arafura has offtake agreements with customers for both NdPr oxide and NdPr metal. To produce NdPr metal, Arafura intends to toll treat the NdPr oxide produce at Nolans into NdPr metal at an existing overseas facility. The NdPr metals is then alloyed for use in neodymium-iron boron (**NdFeB**) magnets which are used in a variety of high-end technologies supporting the green energy transition including electric vehicles and wind turbines.

**18. To what extent are different minerals processed together e.g., from the same raw material? What considerations does this give rise to for the application of the CMPTI?**

As discussed under Q14 there are three products that will be produced at Nolans:

- Two rare earth products (NdPr and SEG-HRE oxide).
- A non-rare earth by-product (merchant grade phosphoric acid).

The rare earth products subject to the CMPTI are processed together through to the separation stage where they are separated into NdPr and SEG-HRE oxide. The NdPr and SEG-HRE contain all the rare earth elements that are contained within the run-of-mine ore apart from cerium and lanthanum. Cerium and lanthanum are low value rare earths and Arafura has made a commercial decision not to recover these rare earth elements in final products and are instead treated as waste and sent to the residue storage facility. The cerium and lanthanum should be treated as all other waste streams and there should be no appointment of costs in respect of these elements.

The merchant grade phosphoric acid is produced during the extraction stage. Phosphate is leached into solution during phosphoric acid pre-leach (see Appendix 1) leaving behind a rare earth rich residue which is processed downstream. The phosphate solution is treated separately from the rare earth rich residue to produce a merchant grade phosphoric acid.

While phosphoric acid is not a critical mineral and operating costs associated with the production of phosphoric acid in isolation would not be eligible for the CMPTI, the phosphoric acid produced at Nolans is a byproduct from an integrated refinery used to produced critical minerals. There is a strong linkage between the production of phosphoric acid and critical minerals at Nolans and consideration should be given to the eligibility of direct operating costs associated with byproducts where such linkages exist.

**19. What is a sensible approach to apportionment of mixed-use costs?**

Arafura believes a sensible approach to the apportionment of mixed-used costs (i.e. operating costs which partly relate to downstream processing of critical raw materials) should be apportioned on an appropriate basis which is determined and supported by the relevant taxpayer. Consistent with the ATO's approach to assessing the reasonableness of a taxpayer's apportionment of costs under the Petroleum Resource Rent Tax Assessment Act 1987, the following should be considered by a taxpayer when determining an apportionment basis:

- A methodical and consistent approach should be implemented for classifying and apportioning operating costs.
- Maintain records that describe the activities which show the extent and nature of the activities, and the connection to the downstream processing of critical raw materials.
- Maintain records of calculations and the steps undertaken to support its choice of a reasonable basis.
- Use of reliable data.
- Keep information to support the reasoning and justification of any estimates made.
- Consider whether there is a correlation between the basis of apportionment and the expenditure.

The apportionment methods selected by taxpayers can be reviewed and interrogated as part of the regulator's standard assurance and compliance activities.

## **21. What testing certifications of processed minerals are common in industry?**

As discussed under Q13 there are standard grade and impurity requirements in the rare earths industry which are included in offtake agreements with customers to ensure they are delivered 'on-spec' product suitable for NdFeB magnet manufacturing.

At Arafura's Nolans Project there will be an onsite laboratory which will be operated by an accredited third-party laboratory provider. A robust final product testing regime will be implemented to ensure only product complying with grade and impurity requirements is shipped to customers. Each shipment of final product will be sampled and tested by Arafura's onsite laboratory provider who will generate a certificate of analysis. The certificate of analysis will be provided to Arafura's customer for verification via their own respective product testing regime.

The new legislation should leverage off existing product analysis processes implemented in industry to the full extent possible. Allowances should be made for taxpayers to use a selection of appropriately accredited laboratory providers to demonstrate compliance with final product quality requirements under the legislation.

## **22. Do businesses regularly rely on commodity contracts to evidence the purity of the commodities being exchanged?**

As discussed in Q21, offtake agreements with customers include relevant product quality requirements which must be demonstrated via a robust testing regime.

## **25. What obligations are potential recipients of the CMPTI currently subject to that might support the community benefit objectives (noting these will be finalised under the Future Made in Australia Act)?**

Arafura has in place a variety of plans to maximise community involvement in the Nolans Project which stem from various regulatory requirements the Project is subject to.

### **Territory Benefits Plan**

The Northern Territory Government has clear objectives for maximising the local benefit of private sector investment by:

- Boosting local workforce development and employment opportunities.
- Facilitating regional and Indigenous economic and community development.
- Encouraging local business participation and small to medium enterprise capability development.
- Enabling economic, industry and social infrastructure investment.

Through the Australian Industry Participation National Framework, the Australian Federal Government also encourages Australian industry participation to be maximised by new private sector investment projects. Arafura has developed a Territory Benefit Plan (Plan) for the Nolans Project which addresses how these objectives will be achieved.

### **Indigenous Engagement Strategy**

Arafura has developed an Indigenous Engagement Strategy to promote and support Indigenous participation in the Nolans Project. The Strategy covers the Project site and associated supply chain. The Strategy complies with the mandatory criteria to access debt finance from the Northern Australia Infrastructure Facility (NAIF).

Arafura will strive to achieve outcomes closely aligned with community aspirations in local jobs, business, economic and social infrastructure investment opportunities. These benefits will be achieved for all Territorians and across all phases of the Nolans Project.

## Native Title Agreement

Arafura has executed a Native Title Agreement with the native title holder (through their prescribed body corporates) and the Central Land Council. Under the terms of the Native Title Agreement:

- Arafura personnel who work at the operation will undergo cultural awareness induction and training.
- Arafura commits to provide employment and training as well as business opportunities for the native title holders and local Aboriginal people to win contract work from Arafura.
- Arafura agrees to processes and information sharing to ensure its agreed commitments are met.

The Native Title Agreement also provides for compensation payments for the benefit of native title holders in recognition of the impacts of the project on their native title rights and interests. The compensation arrangements include upfront and annual payments as well as a royalty.

## Diversity Requirements

Arafura is a ASX listed entity subject to a wide range of listing rules which include the ASX's Corporate Governance Principals and Recommendations (**Principals and Recommendations**). Under recommendation 1.5 of Principals and Recommendations, a listed entity should have and disclose a diversity policy and through its board or a committee of the board, set measurable objectives for achieving gender diversity in the composition of its board, senior executives and workforce generally.

In compliance with this recommendation Arafura has developed a Diversity Policy which outlines its commitment to ensuring a diverse mix of skills and talent exists amongst its directors, officers and employees, to enhance Company performance. It addresses equal opportunities in hiring, training and career advancement of directors, officers and employees and the process by which the Board may set measurable objectives to achieve the aims of its Diversity Policy.

## Sustainability Reporting

Arafura publicly releases an annual Sustainability Report which amongst other topics includes transparent reporting on:

- Indigenous and local partnerships and workforce development.
- The involvement of local businesses and other Australian content in the Project.

Annual sustainability reporting is common practice in the mining sector.

## **27. Recipients of the CMPTI may be subject to additional transparency and disclosure requirements in order to be eligible. What kind of requirements are appropriate? What are the key practical considerations to take into account when setting the requirements?**

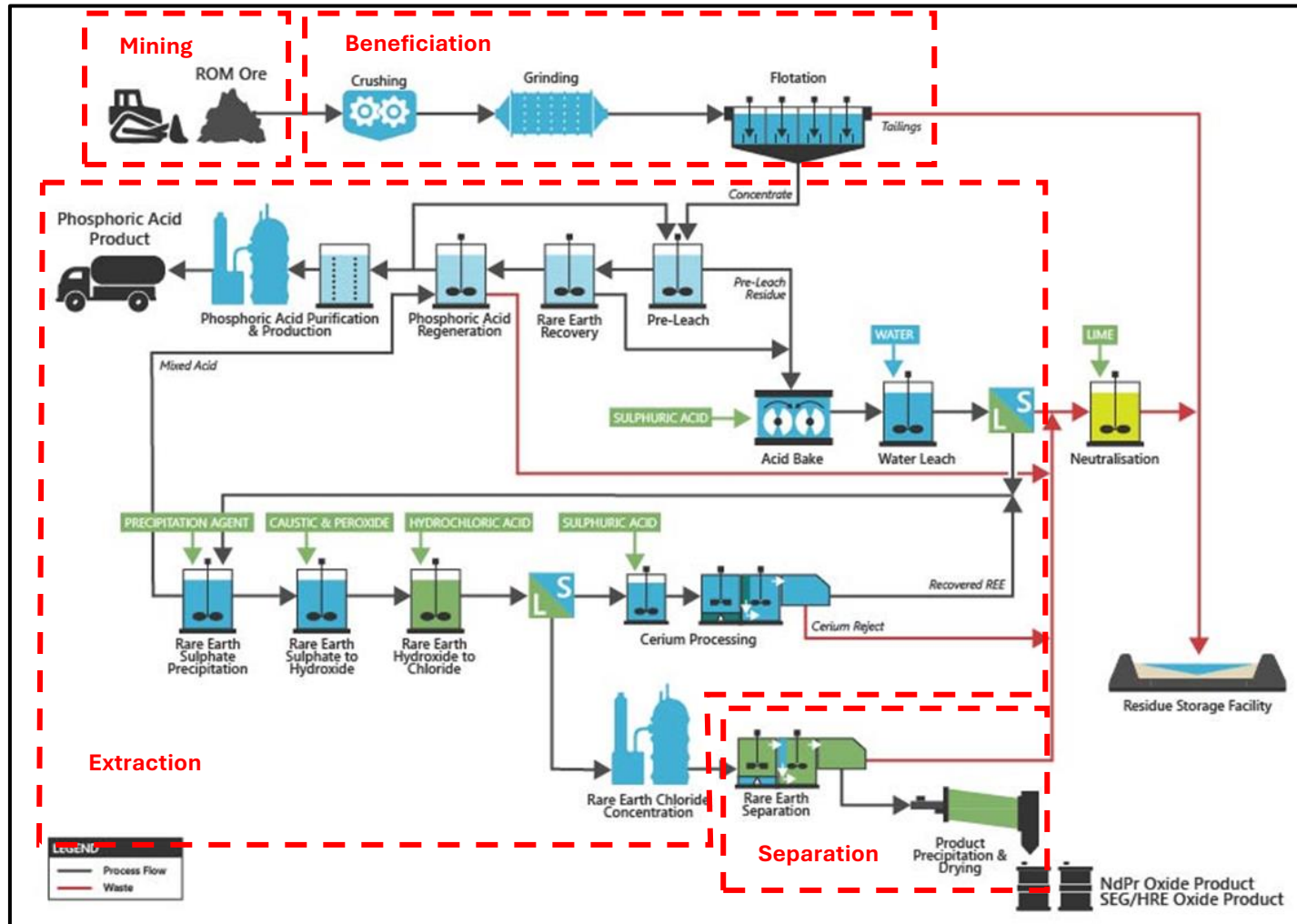
Public entities, particularly exchange listed public entities, are subject to high public disclosure standards including annual and half year financial reporting in line with Australian Accounting Standards. Consideration should be given to whether the taxpayer is a public or private entity and any transparency and disclosure requirements proposed to be imposed should leverage off existing disclosure requirements for public entities to the full extent possible.

Regards,



**Darryl Cuzzubbo**  
**Managing Director & CEO**

# APPENDIX 1 – NOLANS FLOWSHEET



**Mining:** Standard open cut mining which will take place at the mine site approximately 10km from the manufacturing facility.

**Beneficiation:** ROM ore will be crushed, milled and beneficiated using flotation to produce a concentrate, which will be fed into the extraction plant, and tailings, which will be sent to the Residue Storage Facility.

**Extraction:** Hydrometallurgical processing area which will consist of all the unit operations that separate the rare earths from gangue minerals and produce a merchant grade phosphoric acid byproduct and a rare earth chloride liquor which will be fed into the separation plant. Key processes in this stage include cracking, leaching and purification.

**Separation:** Facility and product handling area which will separate the final NdPr and SEG-HRE oxide products via solvent extraction and calcination.