

Ms Mandy Trueman
Department of Environment, Parks and Water Security
PO Box 3675
DARWIN NT 0801

Dear Ms Trueman

Re: Invitation to comment - Supplementary Environmental Report - Equatorial Launch Australia Pty Ltd - Phase 2 Expansion of the Arnhem Space Centre

The Department of Environment, Parks and Water Security (DEPWS) has assessed the information submitted for the above proposal and provides the following comments.

Flora and Fauna Division

The Flora and Fauna Division has reviewed the Supplementary Environmental Report (SER) and have provided comments in the attached submission form (**Attachment 1**).

It is recommended that the Northern Territory Environment Protection Authority (NT EPA) direct the proponent to provide additional information to the SER as the SER does not address all of the comments provided by the Flora and Fauna Division on the referral information, primarily in relation to the clearing of native vegetation, a proposed water storage dam, and significant and sensitive vegetation.

Environment Division

The Environment Division has assessed the above proposal, and comments previously provided on 27 August 2019, (reference DENR2019/0383) from Environmental Authorisations and Environmental Operations remain the same.

Rangelands Division

Land Assessment Branch

Consistent with advice provided in 2024 (during a pre-lodgement clearing of native vegetation meeting), the proponent will need to apply for a land clearing permit under the *Planning Act 1999*.

'Refer to the Northern Territory Planning Scheme Land Clearing Guidelines (NTPS LCG), Section 4.2 Land and vegetation resource assessment, with an emphasis on Land type and Land capability'.

A representative from the Land Assessment Branch met with the proponents in August 2024 and provided verbal and written advice with regard to the proposed land clearing application.

Unzoned Land Clearing

Pursuant to the *Planning Act 1999*, consent is required for the clearing of native vegetation of more than one hectare in aggregate of land on land subject to the Clearing of Native Vegetation Overlay. Applications for permits to clear native vegetation on unzoned land are assessed against the requirements of the Northern Territory Planning Scheme 2020.

Equatorial Launch Australia Pty Ltd (ELA) is in the process of lodging a land clearing application to clear approximately 115.1ha of native vegetation as part of the Phase 2 Expansion of the Arnhem Space Centre.

Note: The Department responsible for unzoned land clearing applications has been incorrectly cited in the SER as the 'Department of Land Resource Management', this should be updated to the 'Department of Environment, Parks and Water Security'.

Weed Management Branch

The Weed Management Branch has assessed the above proposal, comments were previously provided on 4 December 2023 (reference DEPWS2023/0229) no further comment required.

Information regarding weed management is available at: <http://www.nt.gov.au/environment/weeds> or alternatively contact the Weed Management Branch for further advice on (08) 8999 4567.

Water Resources Division

Groundwater

Water Assessments Branch (groundwater) has no additional comments to provide at this stage, as no groundwater extraction has been proposed. The proponent has indicated groundwater may be required to top up a dam supplied by surface water flow during 'dry conditions', although this will not occur within the first years of Arnhem Space Centre (ASC) operation, and would only be a contingency when full operational capacity is reached (2027-2030) if surface water recharge was significantly lower than normal.

In the event of a Ground Water Extraction Licence application submission in the future, and in addition to the groundwater investigations proposed by ELA in the SER - Section 7.2 Groundwater extraction and impact (p. 32-33), the proponent would be advised to consider the potential impacts of groundwater extraction on nearby Eldo spring and high potential Groundwater Dependent Ecosystem's (BOM GDE atlas) ~2km to the south east of the site.

Licensing and Regulation

ELA has indicated that to support the development of the site, a dam will be constructed to capture water from an existing drainage line during wet season flows. Preliminary site maps suggest that the drainage lines are at most depressions and may only function as ephemeral waterways during the wet season. It is still likely that the Water Resources Division would classify this channel as a waterway and part of the larger catchment, requiring a permit for interference under section 43 of the *Water Act 1992*.

Additionally, since surface water will be extracted for a beneficial use, a surface water licence will be necessary. The available water for extraction will be assessed according to the wet season flows water take policy to determine if the catchment can sustain the permitted interference and whether capturing and using the water aligns with the sustainable yield limits for the resource.

It is recommended that the proponent consult with the Water Resources Division to determine if a permit is required and to begin the process of gathering the supplementary information needed for a surface water extraction licence application. The Water Resources Division has already requested shape files from ELA for the dam area to conduct a preliminary assessment of the proposed interference, which will assist in guiding the proponent on the next steps and required supporting information.

The proponent has indicated that groundwater may be needed if dry conditions persist for an extended period, if this situation arises, a groundwater licence may be required. The proponent has acknowledged this possibility and addressed it in Section 7.2.1 Groundwater Extraction and Impact (p32-33) 'ELA would seek a water extraction licence at this time, and this would be a Tier 2 significant application for extraction of less than 500 ML per year in an intermediate or regional scale aquifer outside of a plan area'

Further information can be obtained from the DEPWS website¹ and by contacting water.licensing@nt.gov.au or call 08 8999 4455

Should you have any further queries regarding these comments, please contact the Development Coordination Branch by email DevelopmentAssessment.DEPWS@nt.gov.au or phone (08) 8999 4446.

Yours sincerely



Maria Wauchope
Executive Director Rangelands

20 August 2024

¹ <https://nt.gov.au/environment/water>

Submission on Supplementary Environmental Report

Equatorial Launch Australia Pty Ltd – Phase 2 Expansion of the Arnhem Space Centre

This submission is made under regulation 123 of the Environment Protection Regulations 2020

NT EPA reference number: EP2023/031

Government authority: Department of Environment, Parks and Water Security – **Flora and Fauna Division**

Summary:

- The SER does not address all of the comments provided by the Flora and Fauna Division on the referral information, primarily in relation to the clearing of native vegetation, a proposed water storage dam, and significant and sensitive vegetation.
- The Flora and Fauna Division recommends that the NT EPA direct the proponent to provide additional information to the SER.

Section of SER	Theme / issue	Comment
7.1	Land – Terrestrial ecosystems	<p>The Flora and Fauna Division requested clarification be provided on the extent of regrown and intact native vegetation being impacted by the works to allow assessment of the potential impact on a number of threatened species that potentially occur in intact vegetation types that occur in the broader project area.</p> <p>Neither Section 7.1.1 nor Appendix 2 provide a clear breakdown that delineates between regrowth and intact native vegetation. The Flora and Fauna Division assumes that the 'Native Vegetation Clearance Areas (91ha)' shown in Figure 4 of the SER (p.28) has been determined by the proponent to be intact native vegetation, with the remaining areas inside the 'Affected area (305ha)' to be a combination of areas already cleared for Phase 1 of the project, areas of the Gulkula Mine in the early stages of rehabilitation, and intact native vegetation that will not be cleared. However, it is not clear from the information provided what proportion of the intact vegetation within the 91ha proposed clearing footprint is regrowth from historical operations at the site (i.e. the European Launcher Development Organisation [ELDO] site) and what has not been subjected to any previous known clearing.</p>

Section of SER	Theme / issue	Comment
		<p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER to:</p> <ul style="list-style-type: none"> • Provide explanation and map(s) for areas within the ASC operational area that delineate between existing cleared areas, Gulkula Mine rehabilitation areas, European Launcher Development Organisation (ELDO) site rehabilitation areas, and vegetation not subjected to any previously known clearing.
7.1	Land – Terrestrial ecosystems	<p>The SER states that a vegetation and habitat assessment survey determined that the intact vegetation on the plateau is primarily open woodland but that “pockets of monsoon vine forest...occur on the southern plateau side slopes” (p.28).</p> <p>Appendix 2 also mentions that an area of approximately 10ha within the 91ha clearing footprint was not surveyed as the area was added to the proposed clearing footprint after the field survey had been completed. The proponent’s consultant subsequently undertook a desktop assessment for the area using information from the closest surveyed sites, fire history data and satellite imagery, which concluded that the area is similar to a survey site described as ‘Land type 1 – Plateau surface’.</p> <p>This unsurveyed 10ha area has not been specifically identified in maps but, based on the description provided in Appendix 2, appears to be in proximity to southern-facing plateau side slopes that may contain additional patches of monsoon forest to that already identified in Figure 4-7 of Appendix 2.</p> <p>According to the Northern Territory Planning Scheme Land Clearing Guidelines (NTPS LCG), monsoon forest should not be cleared and appropriate native vegetation buffers should be retained to protect them. If this is not achievable, then justification must be provided and alternative mitigation or management strategies must be identified which avoid impacts. The Flora and Fauna Division notes that the proponent has committed to not clear areas of monsoon forest and will apply a buffer, however the buffer for the largest patch (see Figure 4-7 of Appendix 2) is not consistent with the NTPS LCG. No assessment of the value of the monsoon forest, as is required by the NTPS LCG in order to justify the size of the buffer, has been provided.</p> <p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER to:</p>

Section of SER	Theme / issue	Comment
		<ul style="list-style-type: none"> • Survey the area in proximity to the 10ha area of proposed clearing in the south-east of the project area that was added post-survey for patches of monsoon forest. • Undertake an assessment of the value of all monsoon forest identified within, and adjacent to, the project area and implement an appropriate buffer, as required by the NTPS LCG. • Should implementing the recommended buffer as per the NTPS LCG not be achievable, the alternative must be justified.
7.1	Land – Terrestrial ecosystems	<p>The SER indicates that 91ha of native vegetation will need to be cleared. According to information provided to the Flora and Fauna Division as part of the land clearing permit application process, the total area proposed to be cleared is 115.1ha.</p> <p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER to:</p> <ul style="list-style-type: none"> • Clarify the total area proposed to be cleared.
7.1	Land – Terrestrial ecosystems	<p>The conservation status for a number of the threatened species assessed by the proponent in the vegetation and habitat assessment (Appendix 2 of SER) are incorrect.</p> <p>For example, the Black-footed Tree-rat is listed as Endangered and the Northern Blue-tongued Skink as Data Deficient under the <i>Territory Parks and Wildlife Conservation Act 1976</i>. Whilst the conservation status of a particular species is unlikely to change the likelihood of occurrence assessment, it may have implications when assessing the overall risk to that species.</p> <p>For example, the risk to a species assessed as having a low likelihood of occurrence but listed as Critically Endangered may be greater than if it was listed as Vulnerable.</p> <p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER to:</p> <ul style="list-style-type: none"> • Review the conservation status of threatened species listed in Table 3-2 and Table 5-1 of the 'Vegetation and habitat assessment' (Appendix 2 of SER) and update as necessary.
7.1 and 7.2	Land – Terrestrial ecosystems Water – Hydrological processes	<p>The Flora and Fauna Division requested that information be provided on the proposed dam site, as it appeared to be in a possible drainage depression or creekline. The feature was unmapped and it was unclear if Groundwater Dependent Ecosystems (GDEs), riparian or wetland vegetation were present or</p>

Section of SER	Theme / issue	Comment
		<p>associated with the feature. This information was required so the full impact of the proposal could be assessed.</p> <p>The specific Flora and Fauna comment regarding the dam has not been included in Section 5.4 of the SER so has not been addressed by the proponent. The SER responds to a submission from the Aboriginal Areas Protection Authority (AAPA) about the dam by referring to Section 7.2.1 Groundwater Extraction and Impact, which states, “groundwater <u>may</u> be required to top up a dam supplied by surface water flow during dry conditions” (p.32), and should that be the case then an application for a groundwater extraction licence would include, “ground truthed assessments of groundwater dependent ecosystems (GDE) or sensitive receptors in 5 – 10 km radius” (p.33). However, no further details about the proposed dam, including showing the location/footprint in figures/maps, has been included in the main SER document. Appendix 2 of the SER (Vegetation and Habitat Assessment – Arnhem Space Centre) mentions a proposed dam of 5ha and shows a proposed footprint in Figure 1-1 and Figure 4-1, however no further details or discussion are provided.</p> <p>Figure 4-1 of Appendix 2 shows the proposed dam footprint encompasses 3 land types, including ‘Land type 3 – Plateau foot slope’ which is described in Table 4-3 of Appendix 2 as supporting species such as <i>Melaleuca viridiflora</i>. The occurrence of this species indicates that the area is at least seasonally inundated and may meet the definition for being riparian vegetation or a wetland according to the NTPS LCG. According to the Guidelines, these vegetation types should not be cleared and appropriate native vegetation buffers should be retained to protect them. If this is not achievable, then justification must be provided and alternative mitigation or management strategies must be identified which avoid impacts.</p> <p>The Flora and Fauna Division considers the inclusion of a water storage dam, at any stage of the project, to be significant and has the potential to impact threatened species and sensitive and/or significant vegetation (including GDEs). Therefore, the Flora and Fauna Division considers that the information provided by the proponent in the SER is not adequate to assess the potential impact of the dam on biodiversity values.</p> <p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER in relation to the proposed dam. As a minimum, the following information should be provided:</p>

Section of SER	Theme / issue	Comment
		<ul style="list-style-type: none"> • Location (if more than one location is being considered, then all sites should be included). • Footprint that shows the total area of land disturbance (including associated infrastructure such as pump stations and pipework). • Total water holding capacity. • Construction method and whether the dam will be lined or unlined. If unlined, details of predicted seepage rates and subsequent impact to groundwater levels and nearby vegetation should be provided. • How water levels will be maintained and potential impacts associated with overtopping, particularly during the Wet season. • Assessment of the impact to threatened species and sensitive and/or significant vegetation (including GDEs), including that from withholding water to downstream vegetation and from possible groundwater drawdown as a result of extraction. • Discussion of alternative water storage options that avoid sensitive and/or significant vegetation (e.g. water tanks, etc.).
7.1	Land – Terrestrial ecosystems	<p>As mentioned above, Figure 4-1 of Appendix 2 shows the proposed dam footprint encompasses 3 land types, including 'Land type 3 – Plateau foot slope' which is described in Table 4-3 of Appendix 2 as supporting species such as <i>Melaleuca viridiflora</i>. The occurrence of this species indicates that the area is at least seasonally inundated and may meet the definition for being riparian vegetation or a wetland according to the NTPS LCG.</p> <p>The NTPS LCG also specify 'large trees with hollows suitable for fauna' as a sensitive and/or significant vegetation type. The NTPS LCG describe the criteria for identifying such stands in <i>Eucalyptus miniata</i> and <i>E. tetradonta</i> communities as a minimum of 5 or more stems greater than 50cm diameter per hectare and/or 30 or more stems greater than 40cm diameter per hectare.</p> <p>Appendix 2 of the SER recorded large trees during site surveys, including near site CS3 where four >50cm in diameter at breast height (DBH) trees and seven >40cm DBH trees were identified within a 2ha area. Appendix 2 also noted that six stumps of felled trees that were >50cm DBH were also found in the same area. Had these trees been standing, the criteria of 5 or more stems greater than 50cm diameter per hectare would have been met. This area appears to be in the same location as that</p>

Section of SER	Theme / issue	Comment
		<p>proposed for the dam and may also meet the definition for being riparian vegetation or a wetland according to the NTPS LCG (see comments above).</p> <p><u>Flora and Fauna Division recommendation:</u> That the NT EPA direct the proponent to provide additional information to the SER in relation to significant and/or sensitive vegetation, including:</p> <ul style="list-style-type: none"> • A review of the habitat and threatened species likelihood assessment in areas currently mapped in Appendix 2 of the SER as 'Land type 3 – plateau foot slope' to determine whether sensitive and/or significant vegetation, as defined by the NTPS LCG, is present.