

Statement of Reasons

POWER AND WATER CORPORATION – TIWI ISLAND ENERGY SOLUTION OVERHEAD POWERLINE NETWORK

NOTICE OF AN ALTERATION – CLAUSE 14(A)

PROPOSAL

The Northern Territory Environment Protection Authority (NT EPA) decided on 1 March 2018 that the Tiwi Island Energy Solution Overhead Powerline Network (the Proposal) did not require assessment under the Environmental Assessment Act 1982 (EA Act).

The Proposal is for the overhead component of a high voltage powerline network of 115km length on Melville Island, connecting Apsley Strait and the communities of Paru, Pirlangimpi, Milikapiti and Pickertaramoor.

On 16 August 2018 Power and Water Corporation (the Proponent) submitted a notification detailing alterations to the Proposal to the NT EPA, in accordance with clause 14A of the Environmental Assessment Administrative Procedures (EAAP). Alterations to the corridor alignment and width were proposed to: protect the powerline from trees, commonly up to 30m high in the area, falling onto the powerline; and incorporation of avoidance measures and buffers to minimise potential impacts to threatened species. The final changes are summarised below in comparison to the original proposal:

	Corridor width	Corridor length	Area of native vegetation to be cleared
Original proposal	20m	115km	230ha
Altered proposal	25m – 30m	116km	326ha

Changes in the alignment are proposed to avoid potential impacts on the nests of the threatened red goshawk (*Erythrotriorchis radiatus*), the masked owl (Tiwi subspecies) (*Tyto novaehollandiae melvillensis*) and to minimise impacts on populations of the threatened plants *Typhonium jonesii* and *Typhonium mirabile*. Eighty-nine kilometres of the proposed corridor has been realigned to abut cleared roads and existing firebreaks, to reduce required vegetation clearing, albeit the overall native vegetation to be cleared has increased to accommodate a width of 25-30m. The powerline corridor has been re-routed to avoid direct disturbance of known red goshawk nest sites, including 63 sites recorded in annual surveys undertaken in proximity to the existing forestry operations since 2005. Forty-six kilometres has been relocated to the opposite side of the roads / fire-trails to avoid or lessen impacts on identified occurrences of *Typhonium* species.

The revised realignment has been informed by:

- targeted flora / fauna surveys undertaken along the powerline alignment
- re-modelling of the threatened species' *extent of occurrence*
- assessment of the potential for significant impacts to threatened species.

CONSULTATION

The notification was reviewed in consultation with relevant Northern Territory Government advisory bodies as required by clause 14A(3) of the EAAP.

JUSTIFICATION

The NT EPA considers that the Proposal has been altered from the previous Proposal.

The NT EPA assessed the potentially significant environmental impacts and risks associated with the alteration in line with the NT EPA's environmental factors and objectives, and in accordance with the requirements under the EA Act. The NT EPA originally identified three environmental factors that could be significantly impacted by the Proposal (Table 2). The NT EPA considered whether other environmental factors could be impacted during the course of its assessment, however no new factors were identified as potentially significantly impacted.

Table 2: Key environmental factors considered for this assessment

Theme	Environmental factor	Objective
Land	Terrestrial flora and fauna	Protect the Northern Territory's flora and fauna so that biological diversity and ecological integrity are maintained.
	Terrestrial environmental quality	Maintain the quality of land and soils so that environmental values are protected.
People and Communities	Social, economic and cultural surroundings	Protect the rich social, economic, cultural and heritage values of the Northern Territory.

The NT EPA is satisfied that the alterations to the Proposal do not change the potential for impacts to terrestrial environmental quality and social, economic and cultural surroundings factors.

1. Terrestrial flora and fauna

Objective: Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.

Masked Owl and Red Goshawk

The **Tiwi Islands' masked owl** (Tiwi subspecies) (*Tyto novaehollandiae melvillensis*) is listed as Endangered under both the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Territory Parks and Wildlife Conservation Act 2000 (TWPC Act).

Masked owl primarily occupy tall open eucalypt forest, and typically roost and nest in tree hollows¹. Availability of suitable tree hollows has potential to limit the occurrence of the masked owl. Desktop analysis undertaken by the Proponent concluded that while hollow bearing trees are likely to be a limiting resource throughout the landscape, the proposed clearing would have minor impact on the availability of large hollow-bearing trees. Consequently, the number of potential roosting/nesting sites available to masked owls along the proposed alignment is not likely to be significantly impacted as a result of the Proposal. Flora and Fauna Division is satisfied that the analysis adequately demonstrates that the potential impact on the regional population of the masked owl is likely to be low.

¹ Department of Environment and Natural Resources (2012). *Threatened Species of the Northern Territory – Masked Owl (Tiwi subspecies)*. https://nt.gov.au/__data/assets/pdf_file/0020/206345/masked-owltiwi.pdf

The **red goshawk** (*Erythrotriorchis radiatus*) is listed as Vulnerable under both the EPBC Act and the TPWC Act. The Tiwi Islands population of the red goshawk is considered important due to its size (about 100 breeding pairs) and significance for maintaining the genetic diversity of the species at the regional scale. Red goshawks in the Tiwi Islands occur in extensive open forest, open woodlands and riparian vegetation², and nest in clumps of tall forest or along major creeks and rivers³. Nest tree availability is reported to not limit breeding opportunities for the species on the Tiwi Islands⁴; if a nest tree is removed the birds are likely to nest nearby the following year. Extensive clearing (>25% of trees within 4km radius), however, has been observed to result in birds maintaining a territory but being unable to fledge young.

Twenty-three nests and six extant breeding pairs are known to occur within a 4km buffer of the proposed alignment. For a number of the breeding pairs, the vegetation is already cleared beyond the 25% threshold that is important for nesting success.

The required clearing remaining within nesting territories of individual *E. radiatus* would represent losses of between 0.01% and 0.6% of total ranges. While not considered to be a significant component of the available nesting territory, the removal of vegetation could adversely affect the nesting success of at least one breeding pair. Clearing for the powerline will result in one nest (Cianna nest site 2) exceeding the 25% clearing threshold. The Flora and Fauna Division considers that any disruption to the breeding cycle of this single pair may result in localised impacts but is unlikely to impact the species at a regional or global scale.

The Proponent has committed to undertake clearing outside the known breeding season for the species. This is supported as a means of further reducing the risk from the Proposal to *E. radiatus*.

In summary, while the masked owl and red goshawk are likely to be present in the powerline corridor, the risk posed to the regional population or their nesting habitat is likely to be low. The removal of trees within the corridor may reduce the availability of some nest sites. However, the likelihood of this having a significant impact on the species is low due to the small total area and linear nature of the clearing being likely to represent a small proportion of the home range of any breeding pair and a very small proportion of the available nesting habitat on Melville Island.

The NT EPA is satisfied that the Proposal is unlikely to have a significant impact on the masked owl or the red goshawk.

Typhonium species

Typhonium jonesii and *Typhonium mirabile* are cryptic geophytic herbs currently only known from the Tiwi Islands. Both species are listed as Endangered under the TPWC Act and the EPBC Act.

To assess the potential risk to either of the species the Proponent undertook significant survey effort aimed at clarifying the presence/absence, distribution and abundance of *Typhonium* spp. The results were also used to reconfigure the alignment to minimise impacts on known occurrences of *Typhonium*. Despite the realignment and associated reduced impact, *Typhonium* (165 *T. jonesii* and 14 *T. mirabile*) occur within the powerline corridor and would be removed during construction.

The significance of the Proposal on the currently known population, habitat area and distribution of both species was considered with the notification of alteration. Populations outside the corridor remain relatively unsurveyed, reducing certainty regarding the regional context of the corridor

² Department of Environment and Resource Management (2012). *National recovery plan for the red goshawk Erythrotriorchis radiatus*. Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra. Queensland Department of Environment and Resource Management, Brisbane.

<http://www.environment.gov.au/biodiversity/threatened/recovery-plans/national-recoveryplan-red-goshawk-erythrotriorchis-radiatus>

³ PWC response to further information request submitted to NT EPA 27 March 2019 - *Attachment 2 - Assessment of Potential Impact to the Red Goshawk*.

survey results, however areas of suitable high-likelihood habitat can be estimated from existing data. The Proposal would impact four of the seven known *T. jonesii* sub-populations and two of the four known *T. mirabile* sub-populations that occur on Melville Island⁵. The Proposal will not result in the removal of any single sub-population, with 1.4% or less of the estimated suitable habitat area for each sub-population intersected by the proposed corridor. On this basis Flora and Fauna Division considers that the risk of significant impact on either Typhonium species from clearing associated with the Proposal is low.

Invasive flora is identified as a key threat to *T. jonesii* and *T. mirabile* and incursions along the corridor have the potential to spread and degrade habitat of Typhonium. To manage this risk, the Proponent has committed to undertaking ongoing monitoring and management of invasive plants (both declared weeds and non-declared species considered harmful to Typhonium) within the corridor and for the operational life of the powerline.

The NT EPA is satisfied that risks to threatened species as a result of the construction of the powerline are likely to be low, and that the risks of the Proposal have not changed due to the variation.

CONCLUSION

In considering the above, the NT EPA concludes that the alterations will not increase the significance of the potential environmental impacts and risks arising from the Proposal. The environmental significance of the altered Proposal has not changed and remains such that a Public Environmental Report or Environmental Impact Statement is not required.

DECISION

The Proposal has been altered in such a manner that its environmental significance has not changed and, subject to clause 14A of the Environmental Assessment Administrative Procedures, the administrative procedures are at end with respect to the proposed action.



DR PAUL VOGEL AM MAICD

CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

31 MAY 2019

⁵ Power and Water Corporation response to further information request submitted to NT EPA 27 March 2019 - Attachment 4 - Tiwi Islands Powerline Significant Impact Assessment for *Typhonium jonesii* and *T. mirabile*.