GOVERNMENT OF WESTERN AUSTRALIA

Infrastructure Western Australia

Major Infrastructure Proposal Assessment
Horizon Power
Maitland Burrup Transmission Infrastructure
Summary Assessment Report

Infrastructure WA

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Acknowledgment of Country

Infrastructure WA acknowledges the Traditional Custodians of Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.

Major Infrastructure Proposal Assessment Summary Report

Purpose

This assessment report has been prepared in carrying out Infrastructure WA's (IWA) legislative function to assess and report to the Premier on major infrastructure proposals. The assessment is of Horizon Power's (Horizon) Maitland and Burrup Transmission Infrastructure Project (MBTI) business case (October 2023 version), additional supporting information, and consultation with stakeholders.

1. IWA observations

IWA considers that with the business case, supporting information, and insight gained from stakeholder consultation, the MBTI contains sufficient information to inform a final government investment decision. Horizon has progressed significant work on the proposal, and it is at a mature stage of development.

For this stage of project development Horizon has considered appropriate measures to protect and preserve Aboriginal cultural heritage on the Burrup Peninsula, including the development of a draft Aboriginal Cultural Heritage Management Plan, noting that consultation with Aboriginal communities is ongoing. Considering Aboriginal cultural heritage matters are critical in the planning of MBTI. It is essential that consultation with Aboriginal communities continues, with further work and engagement required during ongoing project planning and delivery.

IWA also considers that Horizon has appropriately planned the MBTI to allow for future use by third parties, and for potential future expansion of transmission infrastructure to support broader decarbonisation and industry needs in the area.

2. Context

2.1 Project background

The MBTI relates to the expansion of North-West Interconnected System (NWIS) transmission infrastructure in the Pilbara, which comprises a number of interconnected electricity networks owned by different parties, including State owned Horizon.

Woodside Energy (Woodside), which operates the Pluto Liquid Natural Gas (LNG) Plant on the Burrup Peninsula, has a target of achieving net zero direct emissions by 2050. As part of its decarbonisation strategy Woodside has been working with Horizon to explore connection of the Pluto LNG Plant and proposed Maitland Solar Farm to the NWIS, enabling a portion of the LNG plant's electricity needs to be met by renewable energy.

Horizon has progressed planning, including the 2020 Burrup Expansion Project Study (BEPS), to test various scenarios and identify options to meet demand for common user transmission infrastructure. This includes working with Woodside to support the Maitland Solar Farm connection.

3. Strategic Merit

3.1 Alignment

IWA considers that the MBTI proposal is strongly aligned to government policies and strategies, and to Horizon's corporate planning. This includes:

- State Government's Climate Policy net zero by 2050 commitment.
- Recommendation 47 of the State Infrastructure Strategy (SIS), being a first step to support development of a hydrogen industry in the state.

- Recommendation 44 of the SIS, to provide a long-term view on energy generation, demand and network infrastructure requirements by preparing a NWIS energy futures report.
- Horizon's 2023-24 Strategic Asset Plan.

Additionally, the MBTI is consistent with recent reforms to the NWIS, which under the Pilbara Network Access Code 2021 requires Horizon to provide a connection solution for customers, except if solutions are not technically feasible or deemed to be unsafe.

3.2 Problems and opportunities

There are currently no large-scale renewable energy connections to the NWIS, largely due to the long and well-established gas industry in the Burrup Strategic Industrial Area (SIA) providing historically low-cost energy to Karratha and Port Hedland. However, Government and industry commitments to achieve net-zero emissions by 2050 are driving demand for more renewable energy connections to the NWIS network, and potentially a large scale hydrogen export industry, which will require major network transformation.

The Burrup Peninsula is an area of significant environmental and Aboriginal cultural heritage importance, with consequent constraints on further development, including through limited availability of developable land. Preservation and protection of the local environment and significant Aboriginal cultural heritage sites and artefacts is critical in the planning and operation of existing and new infrastructure. Opportunities for decarbonising activity through the provision of large-scale renewable energy generation on the Burrup itself are therefore limited. Common user transmission infrastructure is required to connect renewable generation into the NWIS and the current Burrup SIA, in order to support industry to decarbonise.

Woodside's request for access to the NWIS, and subsequent negotiation with Horizon aims to provide connection of the planned 50-megawatt (MW) Maitland Solar Farm to Horizon's transmission network and Woodside's Pluto facility, supporting efforts to partially decarbonise the facility's operations by offsetting existing gas fired generation.

4. Options assessment

Horizon has completed various studies into the development of transmission infrastructure, including the North-West Interconnected System Future Energy Plan 2021 to 2040 and the BEPS. The preferred option is consistent with these studies, representing the first phase of a potential staged expansion of transmission infrastructure.

The business case presents 9 long list options for consideration. One 'do nothing' option, 4 options of varying scale for connecting the Pluto LNG Plant to the NWIS, and 4 options of varying scale for connecting the Burrup SIA to the Maitland SIA. Options range from 33kV to 330kV solutions, and include the common user transmission infrastructure and associated works.

The preferred options are justified through commentary in the business case, not through an identified method such as Multi Criteria Analysis, which is generally recommended as per the Department of Treasury's Strategic Asset Management Framework (SAMF) guidelines. However, IWA considers this is reasonable given the process has involved negotiation and a codesign process with Woodside, which is taking on key financial risks and liability for the project as the initial customer.

IWA notes that a structured approach through an MCA was used for site selection, and documented as part of site and corridor selection studies. Aboriginal heritage was a strongly weighted consideration to identify suitable substation sites and transmission corridors across all options.

5. Societal impacts

5.1 Economic and financial assessment

The business case does not contain an economic analysis of the costs and benefits of the MBTI. IWA considers this reasonable as the MBTI represents a commercial and regulatory based proposal, rather than a proposal based on supporting broader economic benefits for the State.

MBTI has an estimated capital cost of $166.3 million. Horizon has advised these costs represent a Class 3 estimate (-20%, + 30% range), and are supported by recent market engagement and procurement processes. Financial model outputs estimate the proposal will have a modified internal rate of return of 4.9%.

Costs will be recovered from Woodside, and other potential users over a 25-year period, consistent with Horizon's Contribution Policy for the Pilbara Network.

5.2 Social assessment

The business case contains minimal content related to social benefits. IWA encourages Horizon to continue to consider how the proposal addresses social benefits, including impacts on Traditional Owners, in accordance with the principles of the Pilbara Industry Roundtable Communique. This should involve ongoing consultation and engagement throughout the lifecycle of the project.

5.3 Environmental assessment

Information on the environmental costs and benefits of the proposal is limited in the business case, however some information on environmental approvals is documented, and Horizon has provided supplementary information to IWA. Woodside estimates that connection of the Maitland Solar Farm to the Pluto LNG Plant will result in carbon emission reductions of 50 kilotonnes annually. Horizon has also calculated that the MTBI will have Scope 1, 2 and 3 emissions for construction (3,716 tonnes Carbon Dioxide equivalent (CO2-e)) and operation (1,659 tonnes CO2-e) annually.

IWA encourages Horizon to use information provided in its greenhouse gas emissions report to the Environmental Protection Authority to baseline project construction, to support better understanding of actual Scope 3 emissions associated with construction activities in north-west WA, and to demonstrate its commitment to minimising project emissions and grid decarbonisation.

6. Recommended option and project definition

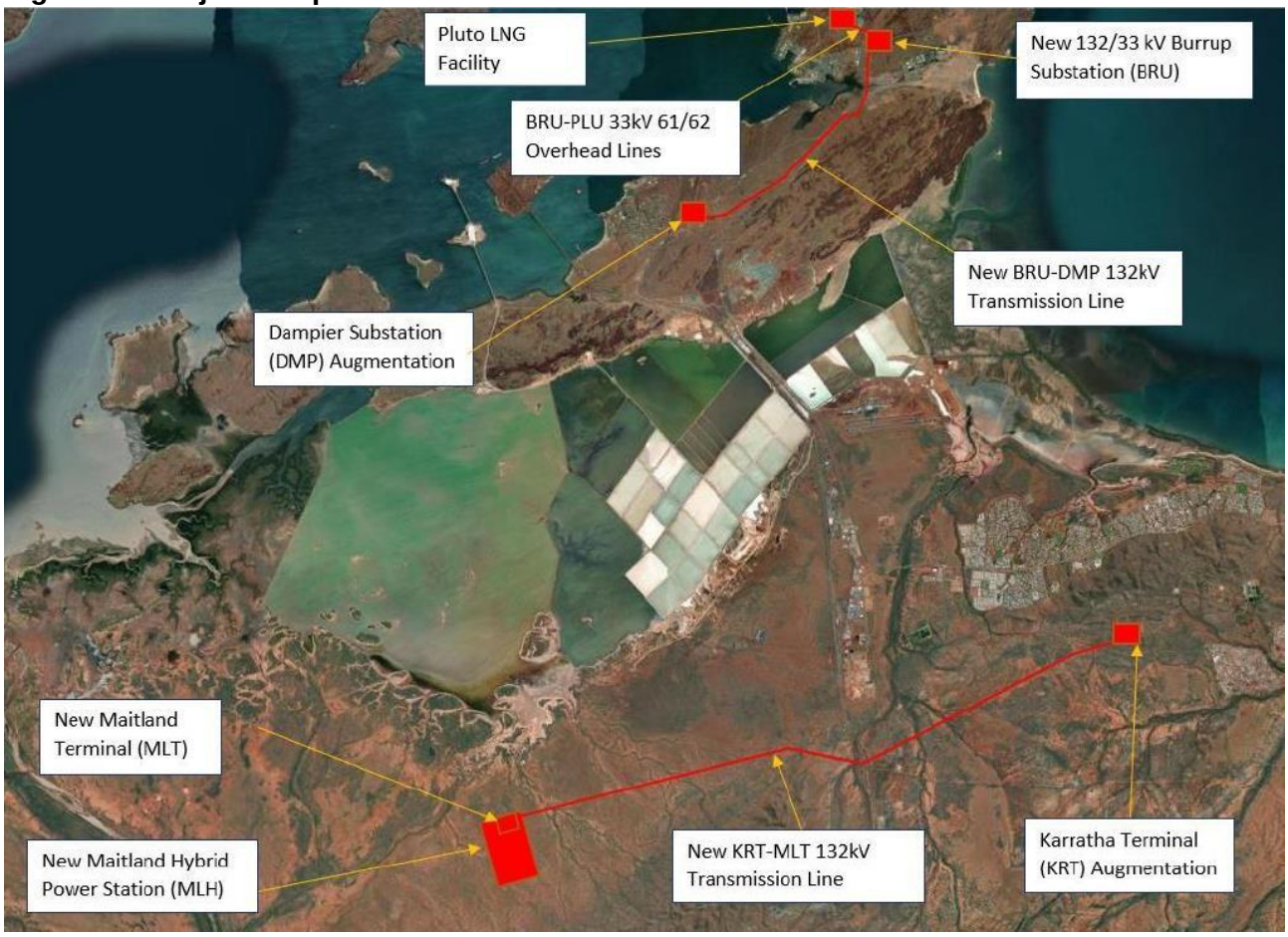
The recommended $166.3 million option for MBTI consists of the following scope (also see Figure 1 below):

Portion A - 132 kV transmission infrastructure extension into the Maitland SIA and connection of the Maitland Solar Farm to the NWIS. • New 132 kV/33 kV Maitland substation in the Maitland SIA buffer area • Connection of Maitland Solar Farm to the NWIS. • New Karratha to Maitland 132 kV transmission line. • Augmentation of Horizon's existing Karratha terminal substation.
Portion B - extension of NWIS 132 kV transmission infrastructure into the Burrup SIA and connection of the Pluto LNG Plant to the NWIS. • Augmentation of the existing 132 kV/33 kV Dampier substation. • New Burrup to Dampier 132 kV transmission line. • New 132 kV/33 kV Burrup substation in the Burrup SIA. • Final connection of the Pluto LNG Plant to the NWIS via a 33 kV link to the new Burrup substation, including decommissioning of temporary assets installed as a part of Portion C

Portion C - The objective of this scope item is to facilitate extension of 33 kV infrastructure to enable temporary connection of the Pluto LNG Plant to the NWIS while works on Portion A and B are completed.

- New Burrup to Pluto 33 kV express sub-transmission lines (x 2).
- Temporary connection of Pluto LNG Plant to the NWIS via existing Burrup 33 kV network feeder.

Figure 1 – Project Scope



Several elements required to deliver the total benefits of the proposal are out of scope of the MBTI. This includes a Battery Energy Storage System at the new Burrup substation and associated works and equipment required for Woodside's Pluto facility.

7. Deliverability

Through consultation with IWA, Horizon has demonstrated a comprehensive approach to identifying and managing project risks, including Aboriginal heritage and financial risks. However, risks and associated mitigation strategies should be more comprehensively detailed in the next phase of project documentation.

Horizon has provided considerable supplementary information to IWA to support its assessment of deliverability risks, including:

- engagement with the Murujuga and Ngarluma Aboriginal Corporation's;
- its approach to managing risks to Aboriginal cultural heritage (in project delivery but also earlier in the process) through a draft Aboriginal Cultural Heritage Management Plan and its broader Aboriginal Cultural Heritage Management Policy; and
- details regarding consultation with the Environmental Protection Authority and environmental and heritage approval requirements.

IWA considers that this information demonstrates that Horizon has considered appropriate measures to date to protect and preserve Aboriginal cultural heritage and broader environmental and heritage matters on the Burrup and is actively consulting with Traditional Owners. It will be important that local Aboriginal communities and other relevant stakeholders remain closely involved in ongoing project development and delivery.

Under the MIPA Interim Guidelines, IWA will be required to complete a post completion review of MTBI. As such a Benefits Management Plan will be required for the MBTI, consistent with requirements under the SAMF Guidelines.