

22 October 2024

Ben Ikin
Planning Adviser
Tasmanian Planning Commission

By email: tpc@planning.tas.gov.au

Dear Mr Ikin

Macquarie Point Multipurpose Stadium Integrated Assessment and Consultation Request

I refer to the letter from Claire Hynes, Acting Executive Commissioner of 26 September 2024 in relation to the Macquarie Point Multi-Purpose Stadium and consultation with relevant agencies on the project documentation.

TasNetworks is in the early stages of assessing the Stadium connection requirements and its potential impact on the shared distribution network.

The following represents TasNetworks' advice based on current information for successful connection of the Macquarie Point Stadium and Precinct private High Voltage (HV) network to the shared distribution network.

Given the material changes in maximum demand, connection arrangement and reliability requirements, connection capability reports based on previous iterations of the Macquarie Point development are not to be relied upon.

The following is written in response to Proponents Reports, Appendix BB, Section 6 – "Electrical Supply" and follows the same sub-section structure.

The following high-level considerations are to be noted:

6.1 Predicted Loads

- 6.1.1 The Stadium and Precinct supply is being assessed via new, dedicated feeder supply from East Hobart Zone Substation.
- 6.1.2 As an alternative to a private HV network, a traditional supply configuration, whereby the shared distribution network is extended into the precinct with distinct connections to the public network has the following conditions:
 - a. The extension of the shared network into and throughout the Macquarie Point site must be via public road reserve (i.e. Crown Land) or establishment of dedicated easements.
 - b. TasNetworks must maintain 24 hour, unrestricted access to the entire network, including each distinct point of supply (substations) whether they form a HV or Low Voltage (LV) connection.

6.2 Existing TasNetworks Supply

- 6.2.1 There is insufficient capacity in the existing East Hobart Zone Substation shared distribution network feeders (14060, 14061 and 14062) to supply the Stadium and Precinct in addition to existing loads.

6.3 Supply Upgrade Options

- 6.3.1 The Connection Capability Report prepared by TasNetworks in December 2019 is no longer current and is not to be relied upon.
- 6.3.2 A new suite of reports, namely a Connection Options and Initial Impact Assessment Report (COIAR) and Connection Capability Reports (CCR) will be prepared to encompass the Macquarie Point Stadium and Precinct supply, temporary construction supply, removal of Evans St substation and related 3rd party connections.
- 6.3.3 The primary supply to the Stadium and Precinct will be from East Hobart Zone Substation.
- 6.3.4 TasNetworks recommend the establishment of two (2) points of supply on either side of the Stadium. This will ensure against failure directly impacting one point of supply and provide route diversity for each supplying feeder.
- 6.3.5 Back-up supply is being assessed from North Hobart Substation with either a new, dedicated supply or via an uprated existing shared distribution feeder.
- 6.3.6 Back-up supply capacity is yet to be determined; however, it may be made available for the Stadium only (one feeder) or Stadium and Precinct (two feeders), pending confirmation of project reliability requirements and constructability of an additional North Hobart feeder.
- 6.3.7 TasNetworks recommend the DIS be designed with the ability to segment the combined load into load blocks less than 5.5 MVA. Segmentation must be controlled by TasNetworks.
- 6.3.8 TasNetworks cannot rely upon 3rd party assets or switching schemes to guarantee the reliability of the network. For any supplying feeder, the maximum installed capacity cannot exceed the rated capacity of the feeder. Switching and control of the networks must be under TasNetworks operational management.
- 6.3.9 Considerations for switching onto a back-up feeder are:
1. Reliance on a load shedding scheme to shed sufficient load from the combined DIS (loads greater than 5.5 MVA) will potentially slow the switching over to a back-up feeder or result in the overload and tripping off of a back-up feeder and de-energisation of the private HV network.

2. Immediate transfer of Stadium load via a “hot spare” feeder may cause power quality and performance issues at the supplying substation. These issues may cause noticeable power quality problems on the shared distribution network, being the supplying and adjacent feeders.
3. More analysis is required to quantify the potential impact on the shared network. This will be performed after a preferred connection arrangement is selected.
4. A possible remedy to the above issues is the installation of Uninterruptable Power Supplies (UPS) or back-up generation to provide a “soft” changeover of supply.

6.3.10 Stadium and precinct generation sources (solar PV and potentially battery storage) must be isolated from the private network for a parallel (that is a transfer) between East Hobart Zone and North Hobart substations to occur.

6.3.11 Sources of generation from within the private HV network introduce the risk of an isolated portion of the network forming an electrical “island”. This is a potentially dangerous situation, which is to be mitigated against by Anti-Islanding Protection Schemes and /or Reverse Power Protection Schemes (should the generation be intended for non-export operation only)

6.3.12 Anti-Islanding and Reverse Power Protection Schemes have implications on the transfer of supplying feeder and will complicate the “bumpless” transfer of supply to a “hot” feeder.

I note the Commission’s intent to directly seek information from relevant agencies in relation to the project documentation and technical requirements. TasNetworks would welcome a discussion on the scope of such involvement in due course.

As previously indicated, please contact Anita Bourn, Land Use Planner (Anita.Bourn@tasnetworks.com.au), to progress that discussion.

Yours sincerely



Peter Stuckey
Executive Governance | Governance