Transmission System Plan (Draft) 2024 - Response to Submissions

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Purpose

The Transmission System Plan (TSP) is produced in conjunction with the Network Opportunity Map, outlining the challenges and opportunities facing power system security and reliability on the SWIS transmission system in the coming decade. It also provides a summary of Western Power's proposed network development plans to address these challenges, while maximising the long-term interest of customers.

The TSP is produced annually by Western Power as part of the annual planning cycle, and as per the Wholesale Electricity Market (WEM) Rules Chapter 4.5B – Transmission System Plan.

In accordance with the WEM Rules, the TSP is published in draft for public feedback with the opportunity to provide submissions open for a minimum of 20 business days. A final version of the TSP, which considers the feedback contained in the submissions received on the draft, together with Western Power's (these) responses to the received submissions, is published annually in conjunction with the Network Opportunity Map.

The Transmission System Plan (Draft) 2024, and an invitation for public feedback submissions was published on 22 November 2024 and remained open until 20 December 2024.

This document captures the minor updates made to the draft TSP 2024, and provides a summary of the submissions received, and Western Power's response.

1. Submissions and Western Power's Response

Western Power received formal submissions on the draft TSP 2024 from three stakeholders. These submissions have been considered by Western Power and responded to in the table below:

Summary of Submission		Western Power's Response
1. One stakeholder raised queries/concerns around UHV(EHV) circuits, and distribution storage:	1.1 potential future use of UHV transmission lines.	**UHV/EHV circuits.** Western Power currently utilises EHV voltages (330kV) for its bulk transmission and this would continue to be appropriate for the foreseeable future. UHV transmission (> 765kV) would not be deemed appropriate within the SWIS network at this stage.
	1.2 about consideration of storage and usage options to increase utilisation of intermittent energy sources (e.g. solar systems).	**Solar PV systems (inefficient/wastage), and potential for adoption of V2X approaches.** Both points here consider the feasibility of 'adopting of new technology' and as such, network storage options, and electric vehicles, feature in Western Power's planning scenarios, and those published in the whole of system plan (WOSP). Several energy storage and Distributed Energy Resources (DER) management options (e.g. virtual power plants) are currently being trialled and assessed for wider usage. This as well as transmission storage will be (routinely) reviewed annually for inclusion in upcoming TSPs. In real time, demand is generally greater than the amount of solar energy being output to the grid, meaning that relatively little solar generation (home or industry) goes unused. Increased levels of network storage capacity will allow for storage and re-use of all forms of renewable generation during optimum times.
2. One stakeholder raised concerns about proposed TXIP works and potential future impacts:	2.1 detailed plan and Scope of Works (SoW) for the allocated funds available with the program to complete TXIP projects.	**Detailed plan and SoWs for the allocated funds available with the program to complete this.** Detailed plans and scopes of work will be developed in line with expenditure approvals required under the applicable Laws and Codes, please see Western Power web page (Clean Energy Link – North Region transmission upgrades) for current information.
	2.2 observations about supply becoming less reliable than in previous years in Geraldton.	**Maintaining reliability** It is not envisaged that the supplies will become less reliable to the Geraldton area.
	2.3 considering the medium and longer term timeframes for upgrades coming into service.	**Northern Region - emerging issues and drivers** It is possible that in the future, generation and/or load drivers may warrant augmentation within the transmission network. The timeframe for future augmentations will depend on the drivers for expansion in the region.

3. One stakeholder commented on the TSP, the WEMR dealing with constraints, and SWISDA forecasts:	3.1 WEM Rule clause 4.5B.4 and the TSP principles as they link to the Security Constrained Economic Dispatch (SCED).	**WEMR 4.5B.4 and SCED** Western Power is working towards improving the methodology and outcomes in the TSP for future years. There is a substantial uplift in the WEM data, toolset and capability requirements which Western Power is in the process of addressing in order to better meet the requirements of stakeholders and electricity market participants.
	3.2 network constraints in the South Region, imposed through AEMO's Network Access Quantity (NAQ) Model and the Reserve Capacity Mechanism Congestion Report released in November 2024.	**Network constraints in the transitioning WEM** Western Power is taking the NAQ congestion information into consideration; particularly in the areas mentioned from Kemerton to Pinjarra and Mandurah. However, we acknowledge this is not precisely outlined in the TSP. In line with the changing requirements, we are working to quantify and optimise solutions to improve the performance of several lines in this area, which will contribute to reducing congestion.
	3.3 clarity on how the proposed network development will deliver the load, generation and storage forecasts set out in SWIS Demand Assessment (SWISDA) over the 10-year planning horizon to 2034.	**Medium- and longer-term timeframes** The SWISDA demand profile outlines an ambitious growth in demand, and form one component from a range of planning documents dating from the WOSP in 2020. Subsequent, to the SWISDA, EPWA released a planning update as outlined in the TSP s. 3.4.2 which refined the most likely augmentations required in the medium term. Western Power continues to work with the Government on further planning for a number of initiatives which will be announced when firm details become clearer. Such details would then be adjusted on a yearly basis, for example, adjusting timing for scheduled augmentation works, forwards or backwards, according to changes in future demand requirements.

2. Updates to the Transmission System Plan (Draft) 2024

Western Power received formal submissions on the draft TSP 2024 from three stakeholders, and these have been assessed and found to be more about clarifications to areas which fall outside of the scope of TSP 2024, and consequently, the contents of the Draft TSP 24 have not been altered.

Please note, though, that, removal of drafting commentary, and minor edits for consistency, such as minor spelling, word/punctuation omissions and the correction explained below, have been made in re-checking the final version for release.

Correction, last para. on p. 7:

> Because the SWIS Transmission Infrastructure Plan (TXIP) does not refer to Geraldton upgrades, a sentence in TSP 24, s. 3.4.2, referring to areas outside the defined scope of the TXIP, *"This includes planning for new lines, reinforcements, and upgrades around key industry areas, including Kwinana and Collie, ~~as well as upgrades between Geraldton and Perth to support development at Oakajee.~~"* - has been updated as follows:
>
> "*This includes planning for new lines, reinforcements, and upgrades around key industry areas, including Kwinana and Collie*".