Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**

Building and Energy Western Australia

11 July 2022

Ms Jenness Gardner
Chief Executive Officer
Economic Regulation Authority
PO Box 8469
Perth BC WA 6849

By email: publicsubmissions@erawa.com.au

Dear Ms Gardner

WESTERN POWER'S FIFTH ACCESS ARRANGEMENT (AA5)

I write in response to public submissions invited on the Issues Paper of *Proposed revisions to the access arrangement for the Western Power Network 2022/23 - 2026/2027* produced by the Economic Regulation Authority (ERA) on 4 March 2022.

A rapidly changing energy landscape with renewable technology, a move towards decarbonisation and a modular grid are present emerging challenges for Western Power, traditionally operating a unidirectional network. It is paramount that safety is not compromised as we transition to new energy solutions. Electric shocks and bushfire risks are real public safety risks that will need to be managed effectively both within a traditional network and a modern one.

Western Power operates a network with extensive wood poles that if not managed appropriately present public safety and bushfire risks. Wood poles naturally age which affects their performance, consequently requiring reinforcement or replacement. Western Power has also developed a Network Rebuild Strategy with programs to replace existing poles and wires with Standalone Power Systems (SPS) and undergrounding through the Network Renewal Underground Program (NRUP). These initiatives contemporaneously integrate emerging technology and mitigate poles and wires safety risks. Other asset replacements such as distribution conductors, cables, switchgear and transformers that present a high safety risk arguably warrant replacement to ensure worker and public safety. Building and Energy therefore supports Western Power's distribution replacement and renewal CAPEX submission.

Equally important ancillary to pole management, is the maintenance of pole top equipment including cross-arms, insulators and stays that support the overhead infrastructure to maintain electrical and mechanical safety. Failure of these assets may lead to range of adverse safety impacts including pole top fire, ground fire, electric shock, physical injury and property damage. Accordingly, Building and Energy supports Western Power's distribution compliance pole management CAPEX submission.

Level 1, 303 Sevenoaks Street (entrance Grose Ave) Cannington Western Australia 6107
Postal address: Locked Bag 100 East Perth WA 6892
Telephone 1300 489 099 Facsimile +61 8 6251 1501
be.info@dmirs.wa.gov.au www.dmirs.wa.gov.au/building-and-energy

Overhead conductor clashing bays of either LV or HV conductors can cause conductor damage and failure or cause sparking that can lead to ground fires or bushfires. Western Power proposes to proactively install LV spreaders on bays likely to clash and reactively treat HV and LV bays that have clashed in service. Building and Energy are supportive of the LV spreader programme that proactively addresses conductor clashing risk. It is expected Western Power also heightens focus on proactive treatment of HV conductor clashing bays as they are more prevalent to causing bushfires. Particular attention to long bays with design clearance violations is necessary which Building and Energy strongly encourages within AA5 period.

Additionally, Building and Energy is supportive of Western Power pursuing LIDAR to obtain a digital twin of the network enabling potential overhead line issues, such as conductor clashing, to be identified and then programmed for remediation.

High pollution of insulators leads to pole top fires, which Western Power proposes to manage through silicone treatment of insulators on de-energised lines in AA5, whereas in AA4 this technique was performed live line. This results in a lower treatment rate to manage risks within existing high pollution areas. While Building and Energy is supportive of silicone treatment to manage pole top fire risks, Western Power is encouraged to maintain rate and level of risk management in this area and promptly review application methods.

Building and Energy continues to support the deployment of Advanced Metering Infrastructure (AMI) as it not only plays a key role in distributed energy resources, but most importantly manages electric shock risks through service conductor condition monitoring. Neutral-related shocks can result in serious injury or death depending on the circumstances. AMI can provide early detection of neutral problems so they can be rectified promptly. Western Power aims to monitor almost all overhead and underground services of whole current metered customers through AMI deployment in AA5, which will reduce electric shock incidents.

Primary and secondary equipment are the backbone of the transmission and protection safety systems that maintain operability and stability of the electricity grid. It is understood such equipment is operating beyond its mean replacement life placing it at higher risk of failure, which could result in unacceptable safety impact to workers and public if not remediated. Accordingly, Building and Energy is supportive of Western Power's transmission asset replacement, renewal and compliance CAPEX submission.

I trust the ERA will consider worker and public safety aspects in its determination of the expenditure sought by Western Power for AA5 period that effectively manages network safety risks contemporaneously with reliability of supply.

If you have any questions about these matters, please feel free to contact me.

Yours sincerely

Saj Abdoolakhan
DIRECTOR OF ENERGY SAFETY