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Before You Dig Australia submission to the Australian Energy Regulator's **Network Resilience Guidelines** consultation¹

About Before You Dig Australia (BYDA)

Before You Dig Australia (BYDA) is the national not-for-profit organisation that operates Australia's primary referral service for underground utility asset location information.

BYDA has over 850 asset owner members across the water, electricity, oil, gas and telecommunications sectors, as well as local councils and some non-utility asset owners. We also manage the Look Up And Live tool, an interactive map to identify the powerlines, their voltages and who owns them.

BYDA has over 700,000 registered service users and processes more than 2.7 million requests for underground utility asset location plans annually. Despite this, more than 15,000 reported utility strikes occur in Australia every year, at an estimated cost to the economy exceeding \$4.6 billion annually once direct repairs and indirect costs such as service outages, project delays, environmental safety consequences are accounted for.²

BYDA's mission — **Zero damage, Zero harm, Zero disruption** — aligns directly with the objective of the AER's Network Resilience Guidelines consultation: reducing the risk and impact on consumers of interruptions to essential services.

Submission overview

BYDA welcomes the AER's consultation paper and the development of formal Network Resilience Guidelines required under the AEMC's final rule of 8 May 2025.³ BYDA is pleased to provide this submission for the AER's consideration in preparing its draft guidelines and strongly encourages the uptake of the recommendations we propose below, **beginning with explicit recognition of excavation damage as a network resilience risk.**

BYDA's central proposition is that network resilience is **inseparable from the protection of underground assets** from third-party excavation damage and from the **quality of the**

1 Australian Energy Regulator, [Network resilience guidelines – Consultation paper, June 2026](#)

2 Before You Dig Australia, [Damage Data Dashboard and member reporting](#)

3 AEMC, [National Electricity Amendment \(Including distribution network resilience in the National Electricity Rules\) Rule 2025, final rule determination, 8 May 2025](#)

location data that protects those assets. The consultation paper frames resilience almost entirely through the lens of severe weather. BYDA submits that this framing is incomplete in two respects:

- **Resilience investment is driving assets underground:** The AER's consultation paper identifies 'undergrounding' as a resilience measure that improves reliability and safety. However, every kilometre of network infrastructure placed underground to withstand storms and bushfires becomes exposed to a different, persistent threat: damage from excavation and other ground-disturbing works. A network hardened against weather but struck by an excavator has not delivered the consumer outcome the resilience expenditure was approved to secure.
- **Excavation risk rises precisely when resilience matters most:** Post-disaster clean-up and reconstruction generate surges in ground-disturbing activity, frequently undertaken at pace, by unfamiliar workforces, in areas where surface markers have been destroyed, including excavation work for reinstating above ground or overhead utilities. Third-party damage during recovery directly extends outage duration and undermines the restoration outcomes the AER's framework is designed to protect.

BYDA's recommendations therefore address the definition of network resilience, the evidence base for resilience expenditure, data standards and reporting, community resilience and critical infrastructure interdependency.

Our recommendations are also consistent with submissions⁴ we've made to the Productivity Commission's National Water Reform 2026 inquiry and recent Department of Home Affairs consultations under the Security of Critical Infrastructure Act review. All our submissions advance our core reforms agenda: mandatory national pre-excavation requirements, minimum standards for underground asset location data and a national data insights framework.

Key issues

The definition of network resilience (Questions 1 and 2)

The 2022 guidance note defines network resilience as the ability of a network to continue to adequately provide, and to recover, network services when subjected to disruptive events.⁵ BYDA supports retaining a broad, event-based formulation. While the AEMC rule is directed at severe weather, the guidelines should acknowledge that the resilience of underground network assets also depends on their protection from ground disturbance damage; both in ordinary operation and, critically, during post-event reconstruction. This does not expand the expenditure factors beyond the rule; it ensures that weather-driven resilience

⁴ <https://www.byda.com.au/about/advocacy/evidence-and-impact/>

⁵ AER note on the [key issues of network resilience, April 2022](#).

investments (particularly undergrounding) are assessed with full visibility of the risks they create as well as those they mitigate.

BYDA supports extending the guidelines to transmission network service providers. Transmission assets, including underground cable corridors, are equally exposed to excavation damage. A consistent national approach avoids fragmented expectations across network types.

Undergrounding transfers risk below ground (Questions 1 and 6)

Where a DNSP proposes undergrounding as its preferred resilience option, the options analysis should be required to account for whole-of-life damage prevention:

- Registration of new assets with BYDA as the national utility location information referral service;
- Capture of accurate as-built location data consistent with AS 5488,⁶ and;
- Ongoing maintenance of data quality above Quality Level D.

Assets recorded only at Quality Level D (approximate, unverified locations) are demonstrably more likely to be struck. Embedding damage prevention into the benefit case at approval is far cheaper than remediating poor records later and materially affects whether the projected reliability benefits of undergrounding are actually realised.

Data standards, templates and information orders (Questions 3, 4 and 5)

BYDA strongly supports the AER's proposals for a standardised resilience data template, reporting of actual resilience spend through Annual Information Orders and more granular grassroots feeder data (i.e. by postcode). These proposals mirror BYDA's own national advocacy for minimum underground asset data standards and a national data insights framework. To be useful for decision-making, templates and information orders should capture:

- Third-party strike incidents on the DNSP's network (frequency, cause, location and consequence), which are a measurable, existing dataset via BYDA's member portal reporting and national Damage Data Dashboard;
- Pre-excavation enquiry volumes and referral response performance for the DNSP's assets, and;
- The proportion of the DNSP's underground network held at each AS 5488 quality level, as a proxy for the network's exposure to preventable damage.⁷

⁶ AS 5488.1:2019 and AS 5488.2:2019, Classification of Subsurface Utility Information (SUI), Standards Australia.

⁷ Before You Dig Australia, Damage Data Dashboard; see above n 2.

On Question 5 (useful, publicly available data), we note that our national referral dataset - 2.7 million enquiries annually, mapped against member assets - already provides consistent indicators of ground disturbance activity and damage risk. We would welcome the opportunity to work with the AER on its application to resilience assessment.

Distribution Annual Planning Reports (Questions 10 and 11)

The new DAPR resilience reporting obligation commencing 2028 is a significant transparency opportunity. BYDA submits that a DNSP's resilience self-assessment is incomplete without reporting on third party excavation damage: strikes sustained in the preceding year, their contribution to outages, the DNSP's engagement with damage prevention (including referral service participation and data quality improvement) and how excavation risk is integrated into asset management frameworks.

This aligns naturally with the AER's stated interest in resilience being embedded in asset management and investment governance. It also aligns with the AEMC's intent that DAPRs summarise resilience activities, expenditure and performance in a single accessible report.

Community resilience and collaboration (Questions 8 and 9)

BYDA supports the AER's acceptance of expenditure that enhances information sharing between network service providers and other resilience actors.

BYDA is a long-established operating example of exactly this cross-sector coordination infrastructure: a single national mechanism through which asset owners across electricity, gas, water and telecommunications share location information with the excavation workforce.

The guidelines should recognise participation in national damage prevention arrangements, including membership/patronage of our utility location information referral service, contribution of quality asset data, and participation in the BYDA Digital Utility Portal (BDUP) as legitimate, fundable expenditure supporting both network and community resilience.

Critical infrastructure interdependency

While individual in nature, different utility services are not necessarily mutually exclusive, particularly where they intersect or rely on each other. For instance, electricity and telecommunications networks can and do operate as an interdependent critical infrastructure system⁸. Because of this, resilience frameworks should move beyond individual assets to a whole-of-system approach, reflecting how communities depend on the combined performance of essential services.

⁸ Australian Telecommunications Alliance, [ATA Response to AER Consultation Paper – Network Resilience Guidelines, 10 July 2026](#)

The evidence is compelling: the Australian Communications and Media Authority (ACMA) found that 88 per cent of telecommunications outages during the 2019–20 bushfires resulted from mains power failures⁹ while the CSIRO TRIP project concluded that many resilience challenges cannot be solved by single-sector investment alone.¹⁰

Electricity, telecommunications and water assets routinely share trenches, easements and road corridors; a single excavation strike is a textbook cascading, cross-sector failure.

Any recommendation of interdependency mapping built on Quality Level D data will misstate dependencies and understate cascading risk. BYDA therefore recommends that any interdependency mapping requirement be underpinned by AS 5488-aligned location data and interoperable data models such as OGC MUDDI.¹¹

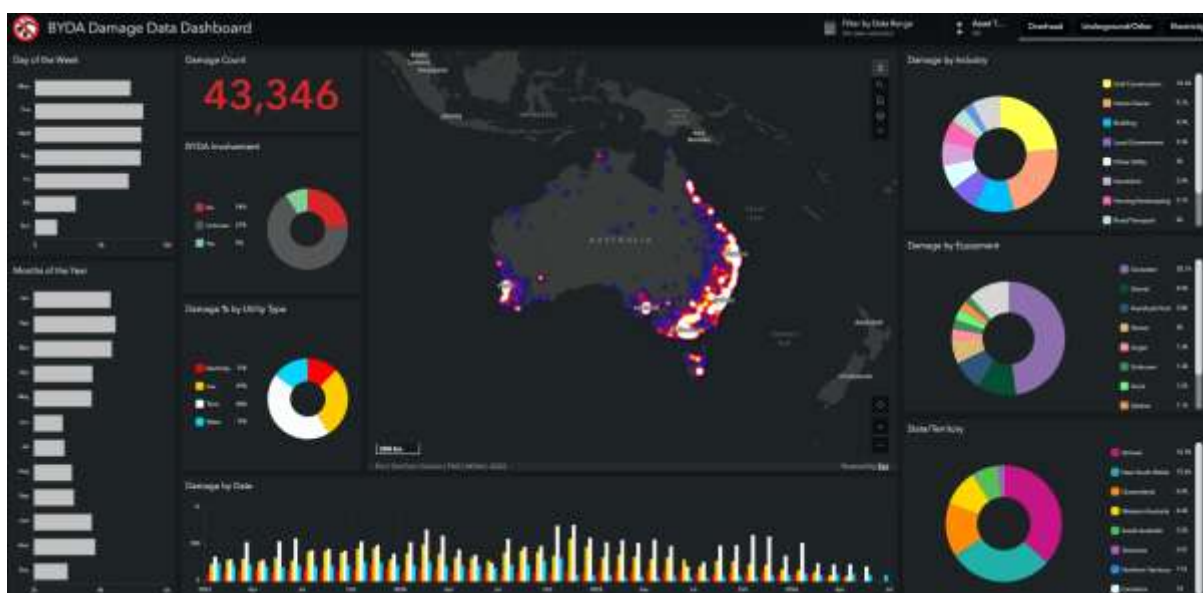


Fig. 1: national heatmap depicting bulk of utility strikes (source: BYDA Damage Data Dashboard)

Recommendation 1: Express recognition of utility damage by excavation activity as a network resilience risk

BYDA strongly recommends the Network Resilience Guidelines **include third-party ground disturbance damage as a material threat** to the resilience of underground network assets. This includes elevated strike risk during post-disaster reconstruction so that resilience expenditure is assessed with full visibility of the risks that resilience investments create as well as mitigate.

9 Australian Communications and Media Authority, [Impacts of the 2019–20 Bushfires on the Telecommunications Network, April 2020](#)

10 CSIRO, Strengthening Mobile Telecommunications Resilience for a Changing Climate: [Telecommunications Resilience Investment Pilot \(TRIP\) Project Brief, Enabling Resilience Investment Program](#)

11 Open Geospatial Consortium, Model for Underground Data Definition and Integration (MUDDI) Conceptual Model Standard.

BYDA further recommends that the AER recognises the Before You Dig Australia process, including the BYDA Digital Utility Portal (BDUP)¹², as an established mechanism for mitigating network resilience risks. BYDA and BDUP cover the complete spectrum of utility assets, including overhead as well as underground.

For this objective to be achieved, responsible entities and utility asset owners must ensure that accurate, current and usable utility location information is available through BYDA.

This should include the sharing of digital utility location data with BYDA, including GIS-based asset location information where available, so that project owners, designers, contractors and excavators can identify the presence and approximate location of underground assets before construction or excavation activity begins.

Recommendation 2: Link ‘undergrounding’ expenditure to damage prevention measures

Where undergrounding is the preferred resilience option, the guidelines should expect DNSPs to demonstrate registration of new assets with BYDA as the national referral service, capture of AS 5488-aligned location data and a plan to maintain data quality above Quality Level D, as part of the options analysis and benefit realisation case.

Recommendation 3: Include damage and data quality metrics in standardised template and Annual Information Orders

The proposed standardised resilience template and any Annual Information Order reporting should capture third-party strike incidents, pre-excavation enquiry engagement, and the AS 5488 quality profile of the DNSP's underground network, drawing on existing national datasets including BYDA's Damage Data Dashboard.

Recommendation 4: Specify third party damage reporting in DAPRs

The Network Resilience Guidelines should specify that DNSP resilience self-assessments in Distribution Annual Planning Reports include utility strikes sustained, their contribution to outages and the DNSP's damage prevention activities and data quality improvement, integrated with asset management reporting.

¹² <https://portal.byda.com.au/wp-content/uploads/2025/10/Boosting-productivity-strengthening-safety-The-BYDA-Digital-Utility-Portal.pdf>

Recommendation 5: Recognise damage prevention collaboration as fundable community resilience expenditure

Participation in national damage prevention arrangements, such as membership of BYDA and utilising the BYDA referral service, contribution of quality asset location data and BDUP participation, should be recognised as prudent and efficient expenditure supporting network and community resilience and cross-sector information sharing.

Recommendation 6: Adopt whole-of-system interdependency approach

The guidelines should promote whole-of-system resilience and interdependency mapping across electricity, telecommunications, gas, water and other essential services. Further, they should require that such mapping be underpinned by accurate, standards-based underground asset location data (AS 5488; OGC MUDDI) to ensure cascading risks, including excavation strikes on shared corridors, are correctly identified.

Conclusion

The AER's guidelines will shape how hundreds of millions of dollars of resilience expenditure is proposed, assessed and reported over the coming decade. As that investment moves more of Australia's electricity networks underground, protecting those assets from excavation damage – principally by data-mapping their location - becomes a core resilience capability, not an adjacent concern.

BYDA has the evidence, the platform and the national reach to support implementation of our recommendations and we urge the AER to include these recommendations in the draft guidelines.

We would welcome the opportunity to meet with the Regulator to discuss this submission and are only too happy to provide upon request further evidence, data and expert input at any stage of your consultation.

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