

Matthew Tsikirakis

Australian Energy Market Commission

Submission made online at www.aemc.gov.au

15 November 2025

Dear Mr Tsikirakis,

Subject: ERC0410 Directions Paper – Integrated Distribution System Planning Rule

SA Power Networks welcomes the opportunity to comment on the AEMC's Directions Paper on the *Integrated Distribution System Planning* rule change (the Rule Change) proposed by Energy Consumers Australia (ECA).

We broadly support the AEMC's direction, which focuses on the distribution planning process and seeks to better align this process with the needs of industry and broader system planning. Our key views detailed in our submission are as follows:

1. The current distribution annual planning process and the Distribution Annual Planning Report (DAPR) are longer fit-for-purpose. They do not fulfil the needs of industry in providing transparency over current network constraints nor in providing an opportunity for industry to engage with distribution network services providers (DNSPs) to resolve those constraints.
2. We recommend that the requirements for DNSPs to follow the distribution annual planning process and to prepare a DAPR be removed, and replaced with new requirements for DNSPs to:
 - a. Regularly publish short and medium-term forecasts of granular network capacity
 - b. Provide opportunities for industry to engage on non-network solutions to resolve identified network constraints, and
 - c. Produce a 20-year strategic plan broadly aligned with AEMO's Integrated System Plan (ISP).
3. We broadly support the AEMC's proposed approach in *Policy Option 3* to achieve this outcome. However, this option should not require an annual industry-focused update on joint planning activities or the progress of RIT-D projects. Doing so would not deliver material value for industry and should instead be included in existing annual reporting undertaken via the AER's reporting mechanisms such as the Regulatory Information Order (RIO).

We look forward to continuing to engage with the AEMC to deliver the lowest cost whole-of-system approach to enabling the energy transition. Should you have questions on any aspect of our submission, please contact me at liam.mallamo@sapowernetworks.com.au.



Liam Mallamo

Industry Development Lead

The short term – transparency on current network capacity and constraints

The problem – connections and constraints are more frequent, distributed and dynamic

The current distribution planning framework requires DNSPs to provide transparency over network capacity, from the sub-transmission level through to the medium-voltage (MV) feeder level. These datasets are derived from annual network demand forecasts and planning activities, which historically have been sufficient to guide the efficient location of new connections.

We recognise that today's connections landscape, however, has shifted to a higher volume of smaller connections, with a greater focus on the low-voltage (LV) network. Extending our network capacity datasets to cover the LV network is a continual request from our stakeholders and is an issue that we consider to be critical to efficiently delivering the energy transition. As the rollout of smart meters increase and DNSPs progressively gain visibility over their LV networks, our capability to model the capacity of these networks will significantly improve, to the level where the data is suitable for publication and use in guiding industry investments.

The prevalence of consumer energy resources (CER) also now provides a significant source of potential non-network solutions to resolve network constraints, including constraints below the current RIT-D threshold. Without an upfront understanding of where these constraints are and when they may arise, however, service providers are unable to effectively offer solutions to DNSPs.

The distribution annual planning process today seeks to:

1. Provide transparency over where network constraints may exist; and
2. Facilitate DNSPs' engagement with industry regarding the potential of non-network solutions to efficiently resolve those constraints.

Both functions are today pursued via written reports, which we consider to be impractical and ineffective going forward. We also note that few non-network solutions are ultimately contracted, or even offered to DNSPs, under the current framework. A more efficient approach would be for DNSPs to pursue a digital platform to view granular network constraint data, from LV through to sub-transmission, and to further leverage that platform to facilitate industry engagement on non-network solutions to these constraints. We do not see a need for continued publication of annual written reports pertaining to current or short-term network capacity or development.

The solution – enhanced data publication, not enhanced reports

We consider that the most efficient and effective solution to inform efficient connection locations and encourage non-network solutions to resolve near-term network constraints, is for DNSPs to maintain and publish granular datasets relating to network capacity. These datasets should cover all levels of the network, from LV to sub-transmission. We do not agree with the AEMC's preferred solution, namely that these functions be served through enhancements to the existing DAPR framework.

The publication of these datasets would build on existing progress DNSPs have made to date in enhancing the existing publication of network capacity data, namely the digitisation and enhanced accessibility of current data required under the DAPR. We see two core audiences, and publication types, for real-time or near-term network capacity data:

- High-level 'heatmap' style data, accessed by a person to guide the approximate location of a new connection or development; and

- Timeseries capacity and power-flow data, to understand the impact of network constraints on the operations and performance of a new connecting resource.

The high-level, heatmap datasets would, in practice, be developed as an aggregation of the granular timeseries data. Both datasets would likely be required at all levels of the network, from LV to guide new connections to the shared LV network, through to sub-transmission to inform the connection, operation and performance of larger resources. We consider that both datasets, and hence the needs of both audiences, could be delivered through a single platform, again leveraging existing work to date by DNSPs in enhancing the availability of network data. We expect that DNSPs ability to provide more frequent updates will evolve over time, but that rolling 3-monthly updates may serve as a suitable starting point.

The majority of DNSPs now use a web-portal, map-based interface to publish annual network capacity data down to the MV feeder¹. An approach similar to this could be taken to facilitate enhanced data publication, with high-level heatmaps available for all network assets, and the option to extract granular timeseries data for each. An application programming interface (API) could also be made available in order to best integrate these network capacity datasets into third-party models and systems.

Whilst many DNSPs have voluntarily adopted digital platforms to enhance the usability of current network capacity data, and most have pursued similar approaches, the exact implementation nonetheless differs between each DNSP. We consider that in developing a guideline relating to the publication of real-time and near-term network capacity data, the AER should seek to understand the datapoints that industry genuinely require and the time-horizon required for near-term capacity forecasts. Consideration should also be given to ensuring that DNSP publication of this data is as user-friendly as possible, genuinely enabling industry uses, through harmonising data definitions and high-level modelling methodologies. There may also be merit in considering a single platform through which published data across all DNSPs could be accessed.

In developing a guideline the AER should also have regard to existing work being undertaken by DNSPs in this space. For example, our *Innovation Fund Business Case*, submitted as part of our 2025 – 2030 Regulatory Proposal, includes a *Self-Service Connections Platform* project², which seeks to develop the capability for industry to both view available and constrained capacity across all levels of the network, as well as to receive automated indicative connections assessments.

From maps to marketplaces – efficient enablement of non-network solutions

With data relating to current network capacity and constraints having been made readily available at all levels of the network, the logical mechanism for DNSPs to indicate any planned network augmentation in response to those constraints, or to solicit non-network solutions as an alternative to that augmentation, would be via the same platform wherein the constraints were initially made visible. In practice, this would be delivered via the previously outlined map-based interface through which:

- High-level, heatmap constraint data can be viewed;
- Timeseries power-flow and constraint data can be extracted, whether manually or via an API;

¹ SA Power Networks currently leverages the Rosetta Analytics platform to publish network capacity data, accessible at <https://dapr.sapowernetworks.com.au/>.

² See section 6.3. of [Innovation Fund Business case addendum \(aer.gov.au\)](#).

- Any planned or committed works to resolve that constraint being made clear, including timing and value of those works; and
- Industry users are able to submit ‘bids’ to resolve those constraints, as an alternative to network augmentation, extending the capacity map into a network capacity marketplace.

Automated publication of constraints and procurement and dispatch of non-network response is not an entirely novel concept – such a model is deployed at scale in the United Kingdom and parts of Europe, and is currently being deployed by Citipower, Powercor and United Energy, with the Piclo Flex platform having been deployed in these networks since 2024³. Our *Innovation Fund* business case also contains a pilot project for a *Local Flexibility Marketplace*⁴, seeking to build on the aforementioned *Self-Service Connections Platform* to facilitate short-term and long-term response to network constraints by third-parties.

Under such a model, we see no benefit in maintaining any sort of written publication regarding the expected near-term network capacity and constraints, nor for a written publication to encourage industry engagement on non-network solutions. Whilst noting that a formal process would still be required for RIT-D qualifying projects, we consider that even that level of engagement could be wrapped into a marketplace approach in future.

The medium term – providing transparency on in-progress distribution works

The current distribution planning process largely focuses on providing a medium-term view of distribution network developments – from 1 to 5 years. This includes both forecasts of available distribution network capacity and updates on in-progress network developments.

We consider that these requirements no longer require a dedicated process to fulfil. Our proposed interface used to provide short-term visibility can be further leveraged for medium-term visibility, through publishing 5-year forecasts of available and constrained network capacity, indicatively maintaining an annual cadence in line with the current process. Doing so would consolidate both current and forecast network development data into a single view, and, in line with our proposed extension of that view to include tenders for non-network solutions, present the most efficient mechanism to engage with industry on network services.

The proposed *Distribution Annual Update*

The AEMC’s *Policy Option 3* proposes to largely remove the existing distribution annual planning process, but to maintain a requirement for DNSPs to publish a *Distribution Annual Update* on their website, updating industry on joint planning activities and in-progress RIT-D projects. We do not consider this to be a necessary requirement, noting that the main audience for these items is not industry, but rather is the AER. We recommend that existing reporting pathways to the AER, such as the RIO, be leveraged to provide updates on these items, rather than introducing a new, bespoke reporting obligation on DNSPs.

³ [Non-network opportunities | CitiPower & Powercor](#)

⁴ See section 6.4. of [Innovation Fund Business case addendum \(aer.gov.au\)](#)

The long term – progressing towards truly integrated system planning

Planning of the distribution network is increasingly coupled with both the planning of the transmission network and the design of the energy market. Several recent and current reforms seek to progress AEMO's ISP towards a truly whole-of-system view, including the *Improving consideration of demand-side factors in the ISP* Rule which now requires distribution networks to provide data relating to distribution network constraints as input to the ISP process. The implementation of this rule provides a pathway for a consistent input stream to the ISP from DNSPs. We recognise that there is not currently a mechanism to ensure consistent application of the *outputs* of the ISP within the distribution planning process. This does not mean, however, that DNSPs do not seek to align with both the structure and outputs of the ISP in their planning processes today.

As acknowledged in both the Directions Paper and the Ampere Labs review of the distribution planning landscape, many DNSPs have already adopted a planning model more closely aligned with that of the ISP. This includes use of the AEMO's Inputs, Assumptions and Scenarios Report (IASR) scenarios and extension of the planning horizon to 20 years, despite neither of these being requirements for distribution planning today. We acknowledge, however, that DNSPs transition to this longer-term planning model is not standardised and lacks a formal linkage to the AER's Regulatory Determination process. We would thus support introducing a requirement for DNSPs to prepare a strategic plan, aligned with the ISP and covering a 20-year planning horizon, and for this plan to be developed in parallel with a DNSP's Regulatory Proposal and submitted as a supporting document.

The purpose of the strategic planning process

The purpose of the strategic plan should be outlined in the rules, providing clear guidance for DNSPs in developing such a plan. We consider that the purpose of the plan should be to:

- Encourage DNSPs to take a longer-term view of network development, noting that many DNSPs are already doing so today in the absence of such a requirement;
- Provide transparency to stakeholders on the assumptions made by DNSPs in forming that longer term view;
- Align DNSPs planning and forecasting models and procedures more closely with that of the ISP, paving the way for more fulsome integration in future; and
- Inform industry of the potential trends and high-level impacts to both the network and the wider energy system seen by changing demand, generation and technology developments, ultimately signalling high-level directions for industry;
- Provide the AER, industry and consumers seeking to engage with a DNSPs regulatory proposal with visibility over the long-term drivers that could affect network development, in-turn providing context to the shorter-term plans outlined in the proposal.

Interaction with DNSPs regulatory proposals

With a key purpose of the strategic plan being to ensure that investments made by DNSPs in each regulatory period form part of a broader strategic continuum, we would support a requirement for DNSPs to develop a strategic plan in parallel with their regulatory proposal and to submit the plan as a supporting document.

The strategic plan would serve to provide context to facilitate understanding of and engagement in a DNSPs regulatory proposal, both from consumers and the AER. We note that several DNSPs maintain concerns with the AER's current practice in assessing proposed investments over a 5-year regulatory period. The current regulatory framework drives the AER to focus purely on the developments within that period and the changes from the previous period, despite the fact that key challenges faced by DNSPs are increasingly requiring a longer-term view to efficiently manage.

For the strategic plan to be of genuine value to the regulatory determination process for DNSPs, being genuinely impactful in guiding strategic investment choices and realising efficient consumer outcomes, we consider that its role in this process must be acknowledged formally. Specifically, we recommend that the AEMC consider a change to the capital and operating expenditure factors in the rules, requiring the AER to have regard to a DNSPs strategic plan when assessing the prudence and efficiency of a DNSPs proposed expenditure over a given regulatory period.

Inputs and outputs of the strategic plan

The Directions Paper sets out a high-level vision for the development of the strategic plan, including that:

- DNSPs should perform scenario-based analysis to inform the plan, with AEMO's scenarios outlined in the IASR used as a baseline, and DNSPs given flexibility to develop and apply their own scenarios in addition;
- Scenario analysis would be performed according to AER guidelines, with these guidelines potentially leveraging the existing Forecasting Best Practice Guidelines as applied to the ISP framework; and
- The scenarios should incorporate the impacts of the works proposed in a DNSPs regulatory proposal.

We consider that these are a reasonable set of inclusions for the requirements of the strategic plan.

In determining the performance of the network over the 20-year planning horizon, whether relating to available capacity, reliability or otherwise, DNSPs should be able to take into account all relevant factors that may impact this outcome. Whilst the demand and CER uptake forecasts provided by AEMO in the IASR will form a critical input, there may be other factors that DNSPs wish to consider, including the impact of changing climate scenarios, bushfire risk and the increasing need for community resilience.

There may be a role for an AER guideline in determining the factors to consider as inputs to the strategic plan, as well as the sorts of outputs that the plan should include. DNSPs should largely maintain the ability to tailor the suite of both inputs and outputs according to the needs of each network, but high-level guidance from the AER will ensure a baseline set of useful and usable information is provided both to industry and to aid in assessing DNSP expenditure proposals. The current Forecasting Best Practice guidelines are tailored to the needs of the ISP, and hence we would suggest a new section be added to cater to the requirements of DNSP strategic plans.

The plan itself should remain largely as a high-level framing of the potential network development required over a 20-year horizon. It should outline the development needed to meet forecast demand and generation, as well as to deliver appropriate reliability and resilience outcomes for consumers. In doing so, the plan would also provide high-level signalling to industry on the potential direction that they may need to take to best integrate with or serve the needs of the distribution network. Where

constraints or degradation in service levels are expected to emerge, expand or otherwise develop, the plan could provide an overview of the issue, the potential network, industry and consumer impacts, and a qualitative analysis of potential solutions that may be required in future. We would discourage the AEMC and AER from considering any requirements for DNSPs to publish long-term network expenditure forecasts in the plan, given the significant variability in forecast inputs, and hence expenditure requirements over the longer-term planning horizon.

Transitioning DNSPs to scenario-based planning

We support requiring DNSPs to adopt scenario-based planning, noting that many DNSPs already do so today, and that scenario and sensitivity analysis is a typical expectation of the AER's in assessing a DNSP's regulatory proposal. However, DNSPs must have sufficient flexibility to produce their own scenarios, tailored to the unique needs of their network, behaviour of their customers and the technology types operating within their network. This is typical practice across the NEM today, with DNSPs utilising granular information pertaining to their network to modify or enhance AEMO's forecast scenarios, including jurisdictional arrangements and policy.

Whether the requirement for scenario analysis is ultimately laid out in a rule or in an AER guideline, the requirement must explicitly provide DNSPs with the ability to develop and apply their own scenarios in the strategic plan, in addition to those of the IASR.

Providing DNSPs with flexibility in their approach to network analysis

The application of these scenarios to network analysis should be guided by principles outlined in the rules and aligned with the overall purposes of the strategic plan. Whilst the scenarios can likely be used to perform granular power-flow modelling for the first 5 years of the plan, as per current distribution planning practice, the level of detail applied to the analysis may reduce in later years of the planning horizon, commensurate with the reduced confidence of the input forecasts and the reduced applicability of these years to industry participants. This is not to say that minimal effort should go into analysis for the later years of the plan, but simply that, at least in the initial implementation of the plan, a granular 20-year timeseries power-flow analysis across all levels of the distribution network may not be practically feasible. We consider that doing so is nonetheless a long-term goal that DNSPs can progress towards, as the capability of planning tools increases and models become coupled across all levels of the network.

The analysis performed by DNSPs as input to the strategic plan will evolve over time, as modelling capabilities improve and the level of impact on network development borne by the plan becomes evident. For instance, where minimal demand growth is forecast for a given region, the benefits of performing increasingly detailed analysis on the associated network impacts may not be commensurate with the effort of doing so. There may be significant growth in the demand for export services, however, and so a DNSP may elect to perform more detailed analysis on the impact of new generation. We strongly recommend that the rules or AER guideline provide guidance to DNSPs in the high-level approach to network analysis, as well as key outcomes of the plan in line with its purpose, but that the specific approach to modelling and planning analysis be determined at the discretion of each DNSP.

Publication of long-term forecasting and planning datasets

In developing the strategic plan, DNSPs will need to undertake significant efforts in network modelling and planning analysis. Doing so may involve detailed engineering studies such as timeseries power-flow modelling, or may be conducted at a higher level, particularly for later years of the planning horizon where uncertainty is greater. Where available, DNSPs could publish the detailed outcomes of this

analysis, such as long-term asset-level power-flows, with clear expectations outlined for industry on the reduction in certainty on a given forecast over the forecast horizon, ensuring that long-term forecasts are used for strategic guidance and not as clear indicators for investment.

Requirements to publish this data, however, should not be made beyond a 5-year planning horizon – the publication of longer-term planning data should be at the discretion of a DNSP. As previously outlined, we expect that the most suitable mechanism for making short-to-medium term (up to 5 years) forecasts of network capacity available would likely be via a capacity map portal. Where a DNSP elects to publish data relating to a longer-term planning period (5 – 20 years), this same portal could be further leveraged to do so, creating a single interface for industry to access all distribution network data.

Interactions with AEMO’s *Demand Side Factors Information Guideline*

The *Improving consideration of demand side factors in the ISP* Rule introduced a requirement for AEMO to consider the effects of distribution network constraints within the ISP, with the details of these requirements outlined in AEMO’s *Demand Side Factors Information Guideline*. Whilst these Guidelines remain under development, DNSPs have worked with AEMO over the past 18 months to consider distribution network factors in the 2026 ISP under a voluntary arrangement.

Given the nascent state of this modelling, the majority of DNSPs elected to pursue a template approach, with SA Power Networks being the only DNSP to adopt a detailed modelling approach. We note, however, that both AEMO and DNSPs have expressed a desire for all DNSPs to transition to the detailed modelling approach over time, considering that this model better aligns with existing system planning roles and responsibilities and allows for DNSPs to more fully consider factors specific to their networks. We expect that it may take several ISPs for more DNSPs to transition to this pathway however, given the need for DNSPs to develop advanced modelling capabilities.

We consider that there is likely to be significant overlap between the distribution network modelling conducted for the ISP and that for the proposed strategic planning process. Where possible, this overlap should be leveraged to minimise duplicative efforts by DNSPs and to ensure consistency of input data across both the ISP and DNSP strategic plans. Specifically, we recommend that consideration be given to aligning the version of the IASR inputs used across the ISP and DNSP strategic plans, noting that the different regulatory cycles that each DNSP operates under may not be well-aligned with the development cycle of the ISP. This would allow all DNSPs to leverage existing modelling efforts and ensure that the ISP and DNSP strategic plans can be accurately compared.

Putting it all together – a pathway to distribution planning reform

The below table outlines a summary of our identified needs for the distribution planning process.

Short term (now – 1 year)	<ol style="list-style-type: none"> 1. Transparency on distribution network capacity to inform efficient location of connections 2. Engagement on non-network solutions to resolve constraints
Medium term (1-5 years)	<ol style="list-style-type: none"> 3. Transparency on current distribution developments/RIT-D progress
Long term (5-20 years)	<ol style="list-style-type: none"> 4. Alignment with and integration into the ISP to deliver a whole-of-system planning view 5. Transparency on the long-term direction of network development, informing the strategic direction of industry

We consider that each of these needs can be fulfilled through more efficient mechanisms than either the current distribution annual planning process or a reformed version of that process, namely via:

- A web-portal featuring granular maps of available and constrained capacity across all levels of the network,
 - A feature within that portal for providers of non-network solutions to tender to resolve a given constraint,
 - Extracts of short-to-medium term capacity forecasts (1 to 5 years) available within that portal; and
- A 20-year strategic plan, developed and published as part of a DNSPs regulatory proposal and aligned with the ISP.

The sequencing of these mechanisms is depicted below, each mapped back to the identified needs. We consider this to be a modified version of the AEMC’s *Policy Option 3* and is our preferred approach.

