

1 September 2023

Mr Hrishikesh Desai  
Chief Data Strategist  
Australian Energy Regulator  
GPO Box 3131  
Canberra, ACT, 2601

Submitted via: [NetworkVisibility@aer.gov.au](mailto:NetworkVisibility@aer.gov.au)

Dear Mr Desai,

### **Network Visibility Consultation Paper**

Nexa Advisory welcomes the opportunity to share our views and insights on the Australian Energy Regulator (AER) consultation paper exploring approaches to sharing network data with energy stakeholders.

#### Summary & Recommendations

The current visibility and data proposals are unambitious and will take too long to deliver to be useful.

Australia's electricity networks, the Transmission Network Service Providers and Distribution Network Service Providers, must be obligated through their licence conditions to share operational (physical and technical) data publicly on a "presumed open" basis.

This public sharing of data on network portals, will be critical for progressing the clean energy transition by:

- Building trust between customers and the energy system
- Underpinning customer, large and small, investment in Energy Resources
- Facilitating lower cost non-network investment options to deliver additional capacity
- Facilitating the customer-side flexibility services needed to support a renewable energy system
- Allowing new innovative business models to be developed by entrepreneurs
- Allowing the research community to assess and analysis system operation
- Developing local community and neighbourhood energy projects
- Supporting those in poorly served network areas to progress away from energy poverty

Customers have already paid for network data via their electricity bills and the use of system charges. The networks should not "double dip" by then expecting customers to pay for access to that data.

Additionally, the regulated Annual Planning Reports, particularly for distribution are no longer fit-for-purpose. These Annual Plans must signpost, in more detail and at lower voltages, where investment is needed, alternatives, such as customer-side flexibility services, that could reduce investment costs and support business and residential customers to make informed investment decisions of their own.

These Annual Plans should also document digital investment and actions needed to support the “smart” operation of the network and facilitate the sharing of data publicly.

The Distribution Annual Planning Report (DAPR) template was last updated in July 2017<sup>1</sup>. While the AER “sees this document as a living document which will evolve in response to stakeholders’ needs in a timely manner”, there have been no updates. This is even though significant changes on distribution networks has occurred in the last 6 years, including rooftop solar PV, batteries and export tariffs. Further rapid changes are anticipated, and the AER should initiate a review immediately to reshape the DAPR so that it signals needed investment, including the opportunity for non-network and third-party services.

1. The AER should commence a review to develop open access to network data by the end of 2023.
2. The provision of network operation data openly must be a regulated requirement for all Network Service Providers.
3. The AER should immediately commence a review into the DAPR template to ensure that it represents a fit-for-purpose signpost for future network and non-network investment at all levels in the distribution system.
4. The AER, as part of the review into open access network data should require each network business to provide an annual digitisation roadmap as a part of the DAPR.

We cannot progress to a clean energy future focusing only on electricity infrastructure. Networks must also focus on the underpinning digital tools and skills that will be needed in a two-way, dynamic power system.

## Context

Australia’s electricity system is rapidly decarbonising, particularly at the distribution level, where rooftop solar PV has been embraced on a significant scale. The 32 GW of rooftop solar PV<sup>2</sup> contributes to the decarbonisation of the wider system, while also driving down electricity prices for all.

However, rooftop solar PV represents a challenge to the legacy approach and business models of the market operator, the networks, the retailers and the large-scale generators. This challenge is not only technical and physical, but financial.

There is a lack of clarity in the consultation paper on who will be the primary beneficiaries of access to network data. While market body and market operator access to DNSP data is part of a separate process, some of the statements in the paper are ambiguous about just exactly who will get what data.

Critical data, such as boundary flows (flows between the distribution and transmission systems), constraints and curtailment data, network capacity, operational and planning data (including need for support) and outage data should be shared openly and publicly.

Australia’s transition to a clean power system is going slowly. This is especially the case at the transmission level, where large-scale renewable generation and storage is blocked from connecting by long connection processes at AEMO and the Transmission Network Service

---

<sup>1</sup> <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/distribution-annual-planning-report-template>

<sup>2</sup> <https://pv-map.apvi.org.au/analyses>

Providers (TNSPs). These delays are further exacerbated by the non-delivery of new the transmission lines to connect new generation to customers.

This is why publicly accessible network data will facilitate sound generation and storage investment decisions at both the transmission and distribution level. Additionally, smart, agile innovators will mine the data for new approaches, such as demand side flexibility services, that will underpin a clean energy system.

#### Need for transparency

There is a record level of distrust in the Australian energy sector<sup>3</sup>, while customers do not feel the market or system is acting in their best interests<sup>4</sup>. The advancement of export tariffs by the networks and dynamic/flexible solar PV connections does little to reassure customers that the networks are acting in customers best interests.

Publicly available electricity distribution network data would help identify where investment in poles and wires was genuinely needed or whether a non-network alternative, such as a flexibility service from the customer side would be a lower-cost alternative.

Publicly available data on network performance and constraints would identify where community-owned batteries and virtual power plants could be located to provide network support. There is a currently a significant information asymmetry that means only the Distribution Network Service Providers (DNSPs) have access to information and can place a network-owned battery in the best locations to maximise its income rather than providing benefits to customers. This is a significant ringfencing issue that has been ignored by granting a class waiver for DNSP-led batteries<sup>5</sup>.

#### More ambition needed

The current proposals for data access in the National Electricity Market (NEM), including the phased approach, lacks ambition and is too slow to adequately facilitate renewable energy and battery deployment at the distribution level or support non-network options, such as customer-side flexibility.

#### *“Presumed open” data*

The “presumed confidential” approach that applies to Australia network data is hampering the transition to a clean power system. Australia needs to adopt the UK’s “presumed open” approach to network data, with the UK’s distribution and transmission network operators required, under their licence conditions, to share publicly information relating to four key areas:

| <b>UK</b>                                | <b>Australia (NEM)</b>                  |
|--|---|
| Constraints and curtailments (all types) | Import & export capability, connections |
| Boundary flow data (at GSP/BSP)          |   |
| Forecasting (planning)                   |   |
| Outages                                  | Network performance (reliability)*      |

\*UK network performance is assessed elsewhere in the RIIO framework

<sup>3</sup> <https://edl.mn/3H0mbC6>

<sup>4</sup> <https://ecss.energyconsumersaustralia.com.au/sentiment-survey-june-2023/>

<sup>5</sup> [https://www.aer.gov.au/system/files/07\\_Nexa%20Advisory\\_12012023\\_Redacted.pdf](https://www.aer.gov.au/system/files/07_Nexa%20Advisory_12012023_Redacted.pdf)

While the data that DNSPs are expected to share is limited to import and export capability and connections (broadly network capacity and performance).

It is not entirely clear why the NEM Transmission System Operator, the Australian Energy Market Operator (AEMO), needs network data down to and beyond the customer connection point. In order to operate the entire power system securely, AEMO needs to know what is happening and will happen at the Bulk supply Point (BSP), relying on the DNSPs to provide sufficient data to forecast flows at the BSPs while the DNSP manages the security of its own network. However, if AEMO intends to the Distribution System Operator (DSO) and/or Distribution Market Operator (DMO) in the NEM, then the data it seeks will be necessary.

For long-term power system planning, AEMO should model down to the BSPs, with the DNSPs modelling up to their BSPs. This joint planning approach, in collaboration with the TNSPs, would allow for very robust modelling, “ground-truthing” the AEMO predictions for distributed energy resource growth against the DNSPs own data and predictions.

#### *Customer data*

It is entirely possible to share network data, including voltage (that may come from smart meters) without compromising customer privacy in terms of their consumption data or comprising system security.

As the UK is demonstrating the requirement to share network data publicly has not compromised the secure operation of either each DNO’s system nor the entire GB power system.

Both a customer’s smart meter data and inverter data belong to the customer and they should have local, free and first access to this data, ahead of market bodies, the market operator and/or networks.

It should also be noted that electricity customers, large and small, have already paid for the collection of raw network data, through the use of system charging elements on their electricity bills. Customers have also supported investment in smart data approaches and the processing of data. It is therefore disappointing that the DNSP monetises that data by selling it to businesses seeking to facilitate the clean energy transition, for example, for public Electric Vehicle (EV) charging infrastructure.

Given the data that the DNSPs (and TNSPs) collect is funded by customers, customers should have ready and free access to that data.

#### *Real-time data is required*

The electricity networks operate in real-time and so if flexibility from customers is desirable, they and/or their agents will need access to real-time network data to deliver system support services in real-time.

Additionally, by restricting the release of network data to that justified by a “use case” risks limiting innovation and new approaches. By publicly sharing all relevant network data, smart and entrepreneurial business can create new models. We agree there should be priority suites of data, but what is currently proposed is unambitious.

*Regulated planning is not fit for purpose*

The current Distribution Annual Planning Reports (DAPRs) are no longer fit-for-purpose. While they do identify needed investment, they do so at a very high level in the distribution system. It is time for the DAPR to be reoriented to identify network needs much deeper into the system, sharing opportunities for non-network solutions including flexibility services from the customer side.

These plans should also include a commitment to digitise with a digital strategy and action plan for each DNSP. Smart modern electricity networks will be heavily reliant on data and the hardware, software and communications technology. The networks, at both distribution and transmission, and the AER need be better able to assess and progress investment in ICT assets.

*One data hub to rule them all?*

AEMO continue to progress the ambition to be the sole source and provider of all data in the NEM, building on the Australian Energy Simulation Centre (AESC) proposal of 2019, which included a data platform. This data platform is now being developed as the Industry Data Exchange (IDX)<sup>6</sup>, however of the limited number of invited stakeholders consulted many are not supportive of a centralised data hub.

One of the significant concerns raised by those stakeholders that were consulted was the cost burden that would be placed on customers<sup>7</sup>. The AESC was originally costed at \$200 M to establish and while the IDX is only a part of the original proposal, the costs and benefits to customers have not yet been adequately assessed. Equally, it is not clear whether AEMO intends to monetise all system data on a “pay-to-access” basis. As with original network data, customers will already have paid, via their bills, for the development of any exchange and its ongoing operation.

A single data hub represents a single point of failure, and any data interface needs to be rapidly and regularly updated otherwise it will become irrelevant. Elsewhere, those that hold the network data are required to have easy to navigate data portals<sup>8</sup>. This facilitates rapid updates that inform industry of flexibility options and network issues.

Thank you for the opportunity to comment and if you would like to discuss any of the issues raised in this submission, please contact me.

Yours Sincerely,

Stephanie Bashir  
CEO and Principal Nexa Advisory

---

<sup>6</sup> [https://aemo.com.au/-/media/files/stakeholder\\_consultation/working\\_groups/other\\_meetings/nem-reform-foundational-and-strategic-initiatives-focus-group/nem-reform-foundational--strategic-initiatives-target-states-idam-idx-pc--10-july-2023.pdf?la=en](https://aemo.com.au/-/media/files/stakeholder_consultation/working_groups/other_meetings/nem-reform-foundational-and-strategic-initiatives-focus-group/nem-reform-foundational--strategic-initiatives-target-states-idam-idx-pc--10-july-2023.pdf?la=en)

<sup>7</sup> [https://aemo.com.au/-/media/files/stakeholder\\_consultation/working\\_groups/other\\_meetings/nem-reform-foundational-and-strategic-initiatives-focus-group/idx-external-workshop-no-2-presentation---final\\_survey-results.pdf?la=en](https://aemo.com.au/-/media/files/stakeholder_consultation/working_groups/other_meetings/nem-reform-foundational-and-strategic-initiatives-focus-group/idx-external-workshop-no-2-presentation---final_survey-results.pdf?la=en)

<sup>8</sup> As an example: <https://ukpowernetworks.opendatasoft.com/pages/home/>