

16 February 2023

Ms Merryn York
Executive General Manager, System Design
Australian Energy Market Operator (AEMO)

Via email: forecasting.planning@aemo.com.au

Dear Ms York

Draft 2023 Inputs, Assumptions and Scenarios Report

AusNet welcomes the opportunity to make this submission in response to the AEMO's Draft 2023 Inputs, Assumptions and Scenarios Report (the Draft IASR).

AusNet is the largest diversified energy network business in Victoria with over \$11 billion of regulated and contracted assets. It owns and operates three core regulated networks: electricity distribution, gas distribution and the state-wide electricity transmission network, as well as a significant portfolio of contracted energy infrastructure. It also owns and operates energy and technical services businesses (which trade under the name "Mondo").

The IASR forecasting and planning inputs are critical to promote timely and transparent decision making within the NEM. As a biennial report, the IASR is subject to continuous improvement. AusNet welcomes many of the changes made in this Draft IASR. We agree the *Slow Change* scenario from the 2021 IASR is no longer consistent with Australia's policy settings and that exploring key variations on the *Step Change* scenario is of value.

We also support the set of sensitivities proposed for the 2024 Integrated System Plan (ISP), albeit seek clarification around AEMO's approach to managing the risk that certain developments shift from being modelled as sensitivities to becoming core scenario components. AusNet also recognises the value of sub-regional nodal representations to understand network challenges, but suggests AEMO provide a broader explanation of the basis for defining the sub-regional nodal topology and selecting each node for those sub-regions.

A key challenge for the Draft IASR is reflecting the complexities and uncertainties faced when planning and delivering major energy infrastructure within an economic report. AusNet recognises AEMO is working hard to take action in this area and has provided feedback on how select inputs and assumptions could better reflect these complexities. AusNet suggests improvements to the following inputs:

- **Public policy settings:** The IASR provides information to stakeholders that demonstrates the consistent application of the public policy criteria. For example, why each policy has or has not satisfied the criteria and what specific details would allow its inclusion in AEMO's optimisation models. Urgent consideration should also be given to whether the current public policy criteria are consistent with the Australian Government's emission reduction proposal. This includes whether the public policy criteria should include public commitments made by jurisdictional governments as matters of policy worthy of inclusion in AEMO's optimisation models.
- **Quantifying 'social licence':** Accurately quantifying social licence within the IASR in a way that helps to promote efficient and timely development of energy infrastructure is likely to be a difficult task. A credible approach would require the IASR to consider a range of questions such as the purpose of quantifying social licence and what specifically is being quantified. There may be more meaningful reforms to embed social licence such as excluding network options based on preliminary land use constraints analysis provided by TNSPs.

- **REZ transmission limits:** There are several changes that would help improve the transparency and accuracy of transmission limits. For example, clearly defining which transmission lines are included in a given REZ transmission limit. We have also provided some minor Victorian specific amendments for your consideration.

Finally, AusNet suggests AEMO consult on options that could help manage credible risks to timely transmission delivery as part of the upcoming draft Transmission Expansion Report. For example, commencing preparatory activities for future ISP projects earlier to build optionality into the Optimal Development Path and transmission decision making.

These points are addressed in further detail in the attached submission. If you have any questions, please contact Jason Jina, Energy Policy Lead by email at jason.jina@ausnetservices.com.au.

Sincerely,



Jack San
Acting General Manager, External Affairs & Government Relations
AusNet

AusNet

AusNet submission in response to the Draft 2023 Inputs, Assumptions and Scenarios Report

Australian Energy Market Operator (AEMO)

Thursday, 16 February 2023



1. Introduction

AusNet Services Limited (AusNet) is pleased to provide our response to AEMO's Draft 2023 Inputs, Assumptions and Scenarios Report (the Draft IASR) published in December 2022.

Our submission covers three aspects:

- Areas of broad support with the Draft IASR (Section 2)
- Inputs and assumptions that warrant further consideration (Section 3)
- Managing credible risks to timely transmission delivery (Section 4).

2. Areas of broad support

The IASR is critical to promoting timely and transparent decision making within the NEM. The report continues to evolve over time and incorporate improvements suggested in previous processes.

AusNet agrees with AEMO that transparency over key forecasting and planning inputs and assumptions is essential to support stakeholders' decision making during the energy transition. As a biennial report, the IASR is subject to continuous improvement. Some improvements have been made on in the Draft 2023 IASR. AusNet is supportive of:

- **The scenario collection** – AusNet agrees that the *Slow Change* scenario from the 2021 IASR is no longer consistent with Australia's policy settings and that exploring key variations on the *Step Change* scenario is of value. All things being equal, AusNet considers these changes result in a scenario collective that is more reflective of the possible supply and demand conditions we expect to see during the NEM's energy transformation. It is critical that changes to the scenario collection continue to consider circumstances (i.e. trajectories) of accelerated transition so that the risks to delivering investment late are more apparent and, if necessary, action can be taken sooner.
- **The sensitivities proposed for the 2024 Integrated System Plan (ISP)** – While the scenario collection tests for a range of possible futures, we do not have perfect foresight and conditions may change over time. Given this inherent uncertainty, AusNet is supportive of the set of sensitivities proposed for the 2024 ISP – to ensure robust testing of key assumptions and inputs.

In the 2022 ISP, AEMO found the Optimal Development Path was generally robust to sensitivities proposed. AusNet is seeking clarification around what AEMO's approach would be if this was not the case. We also seek clarification around AEMO's approach to managing the risk that certain developments shift from being modelled as sensitivities to becoming core scenario components. For example, what process would the 2024 ISP follow if the Victorian Government's Offshore Wind Policy meets the public policy criteria within the next 6-12 months?

- **Adopting sub-regional nodal representations to understand network challenges** – AusNet supports AEMO separating the five NEM regions into sub-regional nodal representations. A more granular representation of the network would help AEMO understand future network challenges earlier in the expansion modelling phase. This is because additional nodes allow the model to consider different energy flow paths and constraints that are not well captured by existing constraint equations. In other words, the location of the additional nodes is likely to be linked with where AEMO anticipates new transmission augmentation opportunities to arise.

We recognise a NEM wide modelling exercise need to strike a balance between too many nodes (which can make it difficult for the model to solve) and too few nodes (which would not capture future network challenges discussed above). In addition, some NEM regions may be more difficult to represent accurately with a limited number of nodes than others (e.g. Victoria).

Given the importance of the sub-region structure to AEMO's modelling results, we suggest AEMO provide a broader explanation of the basis for defining the sub-regional nodal topology and selecting each node for those sub-regions within the Final IASR.

- **Expanding the scope of the Transmission Cost Report** – AusNet welcomes AEMO's decision to expand the Transmission Cost Report into a separate Transmission Expansion Report consultation to consider intra and inter-regional augmentation options along with their expected increase in network capacity, lead times and costs. Networks or other market participants with local knowledge are likely to have views on future augmentations that can provide compelling solution when considering economic feasibility, technical feasibility and community acceptance risks.
- **Classifying inputs and assumption, including key dependences with other consultation processes** – Table 2 of the Draft IASR classifies each input and assumption using three definitions: interim, draft and current view. AusNet welcomes this development as a useful means of understanding which assumptions AEMO is actively seeking feedback in this consultation process and what additional opportunities there may be to provide feedback. We encourage AEMO to retain this approach going forward. A further useful addition would be to highlight how

outcomes within the final 2023 IASR compared to the previous IASR (e.g. including the value differences in the assumptions workbooks).

3. Inputs and assumptions that warrant further consideration

AEMO could evolve select inputs and assumptions to better reflect the range of complexities and uncertainties faced when planning and delivering major energy infrastructure.

Prior to the 2021 IASR, a key challenge stakeholders raised was that existing scenario assumptions that did not reflect the pace of transformation across the NEM and future energy system needs. Since the adoption of the *Step Change* scenario, the challenges related to forecasting and planning activities in the NEM have evolved. We are now in a phase where the key challenge is primarily about reflecting the range of complexities and uncertainties faced when planning and delivering major energy infrastructure. This challenge is reflected in AusNet's feedback on select inputs and assumptions below.

3.1.1. Public policy settings

Given the potential impact of policy settings on forecasting and planning activities, AusNet suggests that the IASR provide information to stakeholders that demonstrates consistent application of the public policy criteria. The IASR should clearly outline why each policy has or has not satisfied the public policy criteria, and what specific details are required that would allow their inclusion in AEMO's optimisation models and as a core scenario assumption as opposed to being a sensitivity.

AusNet is also aware the Australian Government's proposal to incorporate emissions reduction as a new component in the national electricity objective (NEO) and the national gas objective (NGO). This includes any government public commitments that are directly related to (or likely to contribute to) emission reduction, including policies that are not legislated.

We support the proposed amendments to include any government public commitments related to emissions reduction on the basis that:

- **Government policies are designed to incentivise and guide investment** – Misalignment between policy announcements and the intended application of the amended NEO and NGO may result in inconsistent decision making by market bodies and uncertainty for investors.
- **The earlier government policies are recognised, the sooner we can begin the transmission planning and delivery process** – It typically takes a minimum of eight years to deliver a large transmission project. Incorporating government policies into forecasting and planning activities earlier, will help ensure we can plan this infrastructure in a timely manner.
- **There are further opportunities to test the IASR, ISP and TNSP's approach to incorporating government policies into decision making** – Investing in energy infrastructure requires extensive consultation with customers, communities, governments, and regulators. This consultation should provide stakeholders with sufficient assurance that their views on the role of government policies in decision making is considered appropriately.

Given the above, the 2023 IASR and 2024 ISP should be ready to align with the intent of the final legislative amendments. Urgent consideration should be given as to whether the current public policy criteria set out in NER 5.22.3(b) are consistent with the Australian Government's emission reduction proposal. This includes whether the public policy criteria should include public commitments made by jurisdictional governments as matters of policy worthy of inclusion in AEMO's optimisation models.

3.1.2. Quantifying 'social licence'

AusNet welcomes the IASR and ISP actively recognising that obtaining local community acceptance for energy infrastructure is critical to the success of the transformation. Local community groups are seeking greater transparency across all stages and details of transmission development, and meaningful opportunities to input into key planning decisions. This can include questions broader than economic or technical feasibility (e.g. what are the benefits, costs and risks of hosting energy infrastructure).

The Draft IASR suggests AEMO is in the early stages of considering how to quantify social licence through its economic modelling studies and intends to consult further on this topic as part of the 2023 Transmission Expansion Report consultation.

Credibly quantifying social licence would require answers to several questions

Accurately quantifying social licence within the ISP in a way that helps to promote efficient and timely development of energy infrastructure is likely to be a difficult task. A credible approach to quantify social licence requires the IASR to consider the following questions:

- **For what purpose is the IASR seeking to quantify social licence?** It is important that all approaches to quantify social licence align with an agreed purpose. AusNet suggests approaches to quantify social licence in the IASR should aim to promote confidence that the ISP and other planning documents are making the right decisions. This recognises that stakeholders (including local community) often question decisions well after the ISP is completed.
- **What is the IASR seeking to quantify?** The term social licence often means different things to different people. AusNet suggests the IASR consider the scope of social licence. For example, AusNet generally considers the scope of social licence to include a broader range of parties (e.g. land holders, neighbouring land holders and community groups) and the full investment lifecycle (e.g. planning, construction and operation).
- **How will the IASR accurately estimate additional capex costs associated with social licence?** In AusNet's experience, there is often uncertainty when estimating project costs at the IASR/ISP stage. This uncertainty is generally reduced slowly over time as more activities are completed. For example, after preparatory activities, then once a project's technical specifications is outlined at the RIT-T stage and then again in the project delivery when detailed engineering designs are available. A question is therefore, on what basis the IASR can assess additional capex costs such as a longer line length, or various combinations of underground or overhead lines?
- **How will the IASR fairly quantify social licence at a REZ level?** There is a question about whether social licence of linear infrastructure that often spans hundreds of kilometres (such as a major transmission project) can be quantified at a REZ level. TNSPs often receive different perspectives from different communities and land holders along various points of the project, with feedback often place-based. Consideration should be given to how these project or location specific factors can be accounted for.
- **How will the IASR quantifying social licence complement other social licence reforms?** There are currently multiple 'social licence' reforms underway led by a range of parties (e.g. market bodies, jurisdictional governments and industry). It is worth considering how quantifying social licence would interact with other reforms proposed. For example, how would the IASR quantifying social licence interact with the reforms proposed to the economic assessment process currently being considered by the Australian Energy Market Commission's (AEMC) via its Stage 3 Transmission Planning and Investment Review.

On the proposed approaches to quantify social licence

AusNet has reviewed the proposed approaches to quantify social licence within the Draft IASR with the above questions in mind. At this early stage, AusNet:

- Supports quantifying additional transmission augmentation and generator connection costs provided the IASR recognise their limited level of accuracy. Given this challenge, social licence costs should not be relied upon when quantifying net-benefits within the ISP or the regulatory investment test for transmission (RIT-T).
- Welcomes further discussion around how the extension of project lead times for transmission projects could be reflected accurately and complement the AEMC's Stage 3 Economic Assessment Process recommendations due in March 2023.
- Does not support the current approach to quantifying land use penalty factors while defined as a uniform \$/MW across all REZs.

Leveraging preliminary land use analysis to exclude certain network options could be a more meaningful reform to embed social licence

AusNet suggests that there may be more meaningful reforms to embed social licence within the parameters of the IASR and ISP. For example:

1. **Identifying network options within the IASR (or Transmission Expansion Report) in a socially responsible way:** There are opportunities to ensure joint-planning processes identify and develop network options for inclusion in the IASR which are both technically and socially responsible. This could be achieved by applying a multi-criteria analysis (MCA) tool to provide decision makers with a more expansive assessment of the relevant factors likely to impact the delivery and implementation of transmission projects (such as social and environmental impacts, deliverability factors and risk).
2. **Conducting preliminary land constraints analysis to exclude network options that are not practically deliverable:** AEMO could request TNSPs provide preliminary land constraints analysis that considers the environmental, cultural and socioeconomic value of each network option proposed within the IASR. This

information could be used to identify objective measures for the relative viability of network option from a social licence perspective (i.e. the number of properties within the area of interest). This approach could promote confidence in planning decisions by allowing AEMO to exclude certain network options on the basis that they are not practically deliverable. This can help mitigate the risk that network options progressed via the ISP are the 'wrong solution' rather than wait until subsequent planning phases for this to be discovered (e.g. the RIT-T).

We note implementing these reforms would require a high degree of collaboration with stakeholders who have 'a local ear to ground' such as TNSPs, renewable developers and community groups. AusNet supports utilising the upcoming Transmission Expansion Report as a vehicle for these conversations.

3.1.3. REZ transmission limits

In our review of REZ transmission limits within Victoria, AusNet identified several areas worthy of further consideration that fall into two broad categories: (1) suggested changes that would help improve the transparency and accuracy of REZ transmission limits for all market participants, and (2) specific feedback on transmission limits within Victoria.

Changes to improve the transparency and accuracy of REZ transmission limits

AusNet suggests AEMO consider the following changes to its approach to REZ transmission limits:

- **Apply a value range:** At present the Draft IASR provides a single value REZ transmission limit. In practice, transmission limits change under different operating conditions (e.g. during hot weather performance on rated lines is significantly reduced). AusNet suggests presenting a REZ transmission limit with two values - an upper or lower limit – provided compromises to model complexity made to accommodate the change do not materially impact the quality of modelled outcomes.
- **Clearly define the 'cut-set' and effective dates:** The information provided within the Draft IASR does not clearly define which transmission lines are included in a given REZ transmission limit. For example, the REZ transmission limit for Gippsland REZ could vary significantly, depending on the group of transmission lines included. There may also be value in considering how some limits change over time (e.g. the effective date at which the limit applies pre and post the commissioning of a new asset).
- **Adopt consistent terminology:** We note there are opportunities to standardise the terminology used to describe REZ transmission limits within the Draft IASR (e.g. capacity limits, network limits, spare or surplus hosting capacity).

Specific feedback on REZ transmission limits within Victoria

AusNet suggests AEMO consider amendments to the REZ transmission limits to resolve the following Victoria specific issues:

- **Add transmission limits for certain lines:** Table 32 of the Draft IASR only provides REZ secondary transmission limits for some lines but excludes others. For example, AusNet suggest AEMO add transmission limits for the South West (SW) VIC 220 kV network and 500 kV network.
- **Identify 'global REZ transmission limits' in Victoria:** In addition to secondary limits (i.e. limits within the REZ), AusNet suggests the IASR consider the degree to which generation in different REZs contributes to a constraint limit to determine dispatch capacities in wider areas. Note, we understand this is already completed for some regions but not in Victoria.
- **Guthega 'interconnector':** The Draft IASR appears to treat the Guthega line as an interconnector. AusNet suggests this is not consistent with previous modelling exercises and is a function of how the case is modelled in power system modelling software. Guthega facilitates power flow from the Guthega region, and the flow arises from the Guthega bus being in NSW and connecting busses being in Victoria. As a result, it appears as a line that crosses state boundaries but is not an interconnector.
- **Impact of Project Energy Connect (PEC):** AEMO recently consulted on market integration activities required ahead of PEC's commissioning and energisation. There would be value in the IASR specifying how PEC will interact with existing interconnectors from a REZ transmission limit and power flow perspective. For example, it is not yet clear whether PEC and the SW Victorian interconnector will be required to export or import at the same time.

4. Managing credible risks to timely transmission delivery

The IASR and ISP provide a guiding role for NEM's future energy needs and how they will be met. This raises a question about whether they could have a role in helping to manage credible risks to timely transmission delivery.

Recent policy commitments by federal and state governments have identified the timely delivery of transmission projects as critical to the energy transformation. In some cases, these commitments have promised to expediate the commissioning dates of major transmission projects to ensure these investments arrive when they are needed. This recognises the implications of delivering these projects late is likely to be significant (e.g. higher prices, lower reliability, continued reliance on fossil fuels).

There is currently limited information available in the IASR or ISP about whether the timeframes to reach commissioning dates for major transmission projects are reasonable given known and credible risks in the planning and delivery process. For example, risks associated with regulatory approvals, cost recovery, obtaining statutory planning and environmental approvals, acquiring land and easements, labour resource and supply chains.

While policy makers and industry are working hard to expediate the process, there are prudent limits on how far certain aspects of the process can be accelerated as well as legitimate delivery risks that cannot be completely anticipated or controlled. This raises a question about whether there is more the IASR and ISP can do to help manage these credible risks beyond acknowledging the issues and their likely contribution to further schedule delays.



AusNet suggests that this issue is worthy of discussion as part of the upcoming draft Transmission Expansion Report. There are several options that could help manage credible risks to timely transmission delivery. Options includes:

- Commencing preparatory activities for future ISP projects earlier to build optionality into the ODP and transmission decision making.
- Requesting more information from transmission proponents about the development timeline of each Actionable ISP Project.
- Identifying, assessing and proposing mitigations to the credible risks facing committed, anticipated and actionable ISP projects.

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