Response to PUO Position Paper:

Role of the Australian Energy Market Operator in Local Transmission Network Planning

15 July 2016

1 Introduction

On 23 June 2016, the Public Utilities Office (PUO) released a position paper on the 'Proposed role of AEMO in Local Transmission Network Planning' (the 'Position Paper') for stakeholder consultation. The Position Paper outlines a proposal for the Australian Energy Market Operator (AEMO) to undertake a role in the transmission planning of 'major transmission corridors' on the South West Interconnected System (SWIS). The main output of this role is the publication of a 'Transmission Network Outlook' (TNO) document, similar in nature to AEMO's National Transmission Network Development Plan (NTNDP) for the National Electricity Market (NEM), but adapted for Western Australia's Wholesale Electricity Market (WEM). The PUO have proposed the TNO be incorporated into AEMO's existing Electricity Statement of Opportunities (ESOO) document and is complimentary to Western Power's Annual Planning Report (APR).

Western Power welcomes the opportunity to comment on the Position Paper. This submission details our response.

Western Power also welcomes any further discussions with the PUO to clarify any comments made in this submission.

2 Proposed content (section 3.1)

Western Power generally supports the proposed content of the TNO.

Transmission network congestion and energy flows on main transmission corridors

Western Power agrees that the provision of information relating to existing and projected levels of transmission network congestion and energy flows on major transmission corridors will be increasingly necessary as a result of the shift from firm generator access to constrained generator access.

Western Power notes the benefits and value from AEMO providing transmission network congestion information and agrees that AEMO will be best placed to provide this information given its role in managing system security and market operations.

Development strategies of main transmission corridors

Western Power broadly supports AEMO undertaking a security assessment in the TNO, and the subsequent development of network development strategies for major transmission corridors. Western Power expects AEMO will work in consultation with Western Power as part of the TNO, and its development strategies would be complementary to those strategies published by Western Power in its APR. Western Power notes that the production of the NTNDP in the NEM is preceded by a consultation process prescribed in NER clause 5.20.1 and it is assumed that this will be replicated in the WEM. Western Power believes the TNO will provide a valuable assessment of the security of the transmission network and its recommendations will be used to support its own network and non-network investment decisions.

However, from Western Power's experience, preparation of network strategies could incur considerable time and expense. It may be practical to limit the scope of the TNO to an assessment of existing and emerging limitations and a congestion forecast without development strategies, perhaps across the RCP1 period. Recognising the current unconstrained nature of the SWIS, it may take time for any network issues or material levels of network congestion to arise. An alternative may be to provide AEMO complete discretion over whether or not to prepare development strategies based on the forecast network limitations they identify. Western Power suggests that the PUO consider whether the benefits of having development strategies in the first TNO will create sufficient benefit and value to the market.

In relation to development of network strategies WEM Rules clause 4.5.10 currently has a requirement for AEMO to identify and assess potential capacity shortfalls and to identify potential transmission, generation or demand side capacity augmentation options to alleviate those capacity shortfalls. Whilst the firm capacity design requirements of the network has typically resulted in AEMO not identifying any network capacity shortfalls historically, the constrained access reform may find this increasingly relevant. It is not clear how these existing obligations on AEMO in the WEM Rules and those proposed in the TNO will interact.

Transmission connection point forecasts

Western Power supports the development of transmission connection point forecasts by AEMO, as required to support its planning function. Western Power understands this is consistent with the approach undertaken for the NEM in other participating jurisdictions as part of the Council of Australian Governments (COAG) Energy Market Reform Implementation Plan[1].

Western Power notes that the Position Paper re-affirms Western Power's obligation to produce transmission connection point forecasts as a key input into the annual planning process.

Network Support and Control Ancillary Services

Western Power supports AEMO reporting on the additional Network Support and Control Ancillary Services (NSCAS) required to support the transmission network to manage power system security. The Position Paper notes that the NER places obligations on AEMO to not only report on NSCAS gaps but also provides AEMO with the powers to procure NSCAS, if necessary. The Position Paper is not clear whether AEMO will have similar powers to procure NSCAS in Western Australia.

Western Power supports NSCAS procurement powers for AEMO. In the absence of such powers, Western Power has expressed concerns[2] with providing AEMO the ability to direct the Network Service Provider (NSP) to procure NSCAS. If procurement powers are not afforded to AEMO, Western Power recommends that it be provided sufficient discretion whether or not to invest in the NSCAS based on its own assessment of non-compliance with its power system security and reliability obligations under the NER. Furthermore, it is not clear as to whether an AEMO directed procurement of NSCAS would be subject to the Regulatory Investment Test assessment.

Western Power believes that by virtue of publication within the TNO an NSCAS gap identified by AEMO flags a potential forecast non-compliance with respect to the NSP's obligations in the NER. Unlike the NEM, which has an NSP in each of the interconnected jurisdictions, Western Australia is an islanded region. A forecast NSCAS gap can therefore only be met within that island. The NSP and AEMO could disagree on the type of NSCAS gap, its timing or risk. This could come about from the use of different connection point forecasts, generation and load scenarios or differences in the accuracy of power system models. Western Power believes that in a single islanded jurisdiction, the NSP should be given discretion whether or not to invest in an NSCAS gap based on its own assessment of power system security and its obligations under the NER and the jurisdictional planning criteria. Under such arrangements it may be sensible for AEMO to have NSCAS gap procurer of last resort powers.

Other content

Western Power notes that AEMO's NTNDP typically includes information on different generation outlooks, which may include projected location and timings of new generation additions or

[1] https://www.coag.gov.au/sites/default/files/COAG%20Energy%20Market%20Reform%20Implementation%20Plan%20-%20FINAL%20-%2028%20November%202012.pdf

[2] Western Power response to Electricity Market Reform Position Paper on Design Recommendations for the Wholesale Energy and Ancillary Service Markets.

retirements. Western Power understands that information provided in the generation outlooks is distinct from the information provided in the AEMO's ESOO, which generally considers whether there is sufficient existing and committed generation to meet the overall forecast demand. In undertaking network planning studies across the 10 year horizon, Western Power currently makes assumptions on generation planting scenarios to identify the emergence of network constraints. Western Power welcomes AEMO preparing these generation scenarios as part of the TNO as this provides an independent view which is open to public consultation.

3 Assessment of power system security and reliability standards (section 3.1.2 and section 3.1.3)

Western Power broadly supports removing the assessment of local reliability standards from the TNO. Western Power notes that the assessment of local reliability standards will be reported within Western Power's APR and performed by Western Power against the reliability planning criteria proposed in an amended jurisdictional planning document (currently proposed to be the Network Quality and Reliability of Supply Code).

Western Power understands that the NEM Reliability Standard is determined by the AEMC Reliability Panel[3]. The Reliability Standard is expressed as a percentage of unserved energy, whereby the total unserved energy accumulation is limited to .002% of total annual energy consumption. That is 99.998% of the total annual energy demand must be supplied in the NEM by generation and bulk network supply points. A similar expression of the Reliability Standard is also provided in NER clause 3.9.3C.

Importantly, NER clause 3.9.3C(b) further clarifies which events (that cause unserved energy) will be included in determining whether this obligation is met. Western Power notes that the accumulation of unserved energy is centred on outages associated with inter-regional transmission elements (interconnectors) as opposed to intra-regional transmission elements. Unserved energy as a result of credible contingencies on localised jurisdictional transmission elements is not included. This would appear to be consistent with the removal of local reliability standards from the TNO assessment noting that its focus is on power system security and reliability consistent with the power system security and reliability standards. The latter of which is focused on reliability issues caused by generation deficient and interconnector capacity shortfalls only.

The PUO have advised that a Reliability Advisory Committee[4] will be enacted for the WEM and has similarly advised that Chapter 3 of the NER will be largely replicated into the WEM Rules. Western Power notes that a requirement exists in the WEM Rules which, similar to the NEM Reliability Standard, requires AEMO to limit the expected unserved energy to .002% of annual energy consumption. However, unlike the NER, the WEM Rules do not further clarify which events are included in the accumulation of the expected unserved energy. Western Power suggests it would be helpful to understand which types of unserved energy events will accumulate against the local 0.002% standard. In particular, will all transmission events be included or just those events which arise as a result of a generation deficits to meet demand.

[3] http://www.aemc.gov.au/getattachment/2f4045ef-9e8f-4e57-a79c-c4b7e9946b5d/Fact-sheet-reliability-standard.aspx

[4] PUO Position Paper on the Proposed Design of a Reliability Advisory Committee in Western Australia

4 'Major transmission corridors' (section 3.1.2)

Western Power supports the definition of 'major transmission corridors' in the SWIS to be consistent with the NEM and expects that these will be defined in consultation between AEMO and Western Power in due course.

5 Electricity and demand forecasts (section 3.1.4)

See section 2 above.

6 Jurisdictional planning body (section 3.1.5)

Western Power plans, builds, maintains and operates the transmission network in the SWIS and it would appear a logical choice to undertake the jurisdictional planning obligations.

Assuming Western Power is prescribed the jurisdictional planning body function, it is understood that AEMO may request Western Power to support the development of the TNO. Whilst Western Power would seek to meet its obligations in providing sufficient support to AEMO to produce the TNO, these requests should be limited to 'reasonable requests'. It would be unreasonable for example, for AEMO to delegate its responsibility to produce congestion analysis, demand forecasts or network development strategies to Western Power without adequate resourcing arrangements. Doing so also removes the benefit of AEMO providing its independent view of certain matters to the market and would potentially dilute the overall value that the TNO provides.

7 Planning horizon and publication (section 3.1.6)

The Position Paper has stated that 'the aim of the NTNDP is to provide a more strategic and long term view in relation to transmission planning that informs and compliments the shorter-term investment planning activities of the Transmission Network Service Providers and, as a result, promotes efficient outcomes for consumers'. Western Power notes that the NTNDP is based on a 20 year study horizon to help achieve this.

Western Power understands that a minimum 10 year study period for the TNO seems like an appropriate balance between a sufficient forward looking horizon and the additional modelling and simulation times required to undertake a 20 year study. However, Western Power is aware of the benefits of longer term assessments, particularly when large investments are being considered with long lead times. Mandating a minimum ten year study horizon but also allowing AEMO the discretion to extend that horizon, as required, appears to be a pragmatic approach.

Note: the Position Paper has stated that 'the 10 year study horizon aligns with the time horizons of the AEMO's ESOO and Western Power's APR'. Western Power clarifies that whilst the annual planning process prescribed in NER clause 5.12 is based on a 10 year study horizon, the APR itself reports on emerging network issues and proposed augmentations across a 5 year time frame, as per NER clause 5.12.2(c)(3).

8 Transmission Network Outlook database (section 3.2)

Western Power supports the publication of a TNO database and notes the benefits of having an initial base model for market participants to undertake market simulation investigations into transmission network congestion. Western Power notes that the move to constrained generator access is likely to result in an increasing need for customers to understand what levels of network congestion they may be subject to. Western Power understands that the proposed TNO database would provide a firm starting base to undertake this analysis should a participant (or other party) wish to perform studies.

Western Power understands that the inclusion of constraint equations in the database is required to simulate forecast network congestion outcomes. However, the specified content proposed by the PUO does not include constraint equation formulation. Western Power understands that whilst constraint equation information may be available to registered participants, it may not be available to non-registered participants in the absence of such information provided in the TNO database.

Western Power proposes that the TNO database is published to the public with constraint equations. Western Power notes that AEMO currently publishes constraint equation formulation within the NTNDP database and publication in the TNO database would be consistent with the approach undertaken in the NEM.

9 Cost and fee structure (section 5)

Western Power understands that any costs incurred in providing support to AEMO in the production of the TNO on an annual basis will be recovered through Western Power's forecast operating expenditure in the relevant regulatory control period as a yearly recurring operational expenditure.