Consultation Paper

Transmission Annual Planning Report Guideline

April 2018

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

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AER Reference: D18/43031

Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
DAPR	Distribution Annual Planning Report
DNSP	Distribution Network Service Provider
ENA	Energy Networks Australia
ISP	Integrated System Plan
KV	Kilovolt
MWh	Megawatt hour
MVA	Mega volt ampere
NEM	National Electricity Market
NSP	Network Service Provider (either a DNSP or TNSP)
POE	Probability of exceedance
rules	National Electricity Rules
TAPR	Transmission Annual Planning Report
TNSP	Transmission Network Service Provider

1 Overview

The Transmission Annual Planning Report (TAPR) Guideline will provide generators and large transmission customers useable and consistent information they need to make informed connection decisions. It will also provide non-network service providers information on how they may offer non-network solutions to identified transmission needs. More broadly, it will provide interested parties, including electricity consumers and their representatives, information that allows them to better understand network planning and engage with how investment decisions are made. We will also use this information to inform our revenue reset assessments.

The combination of declining renewable generation costs, retiring thermal generation plant and government incentives is resulting in over 35,000 MW of proposed renewable generation connections to the transmission system.[1] At the same time, the declining costs of technology are creating more opportunities for non-network service providers.

However, generators, large transmission customers, non-network service providers and other interested parties face the challenge of comparing different information types and detail across the TAPRs, leading to increased costs and potentially inefficient investment decisions.

The TAPR Guideline will address some of the challenges by requiring transmission network service providers (TNSPs) to publish a consistent set of information. This information will complement the TAPR documents published on 30 June each year, as well as the information we will require TNSPs to publish in support of asset retirements.

This consultation paper provides our initial thinking on the information TNSPs must publish to accompany their TAPRs. Specifically, we are proposing that TNSPs publish and keep available on their website, information relating to every transmission connection point and transmission line, as well as forecast information relating to emerging limitations. We propose that this information be of a form that can be easily ingested by computers for analytical comparisons.

We have taken this approach to ensure consistency with the System Limitations Template, which we published in June 2017. The Systems Limitations Template complements distribution network service providers' (DNSPs') Distribution Annual Planning Reports (DAPRs). We do not consider it feasible or helpful to prescribe the chapter headings, sections and specific sub-sections for each TAPR, given the changing dynamics of the market.

1.1 Request for submissions

We are seeking submissions on whether the information we are proposing TNSPs publish will adequately assist interested parties to engage effectively in network planning decisions. Specifically, we are interested in whether the information we are proposing TNSPs publish,

1 AEMO, *Generation information page*, https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information, accessed 29 December 2017.

as listed in sections 4.1 to 4.3 of this consultation paper, is clear, sufficiently comprehensive and fit-for-purpose.

We invite submissions on this consultation paper by the close of business **18 May 2018**. We prefer stakeholders send submissions electronically to: AERInquiry@aer.gov.au.

Alternatively, stakeholders can mail submissions to:

Mr Peter Adams
General Manager, Wholesale Markets
Australian Energy Regulator
GPO Box 520
MELBOURNE VIC 3001

We prefer all submissions be publicly available to facilitate an informed and transparent consultation process. We will therefore treat submissions as public documents unless otherwise requested.

We request parties wishing to submit confidential information to:

- clearly identify the information that is subject of the confidentiality claim; and
- provide a non-confidential version of the submission, in addition to a confidential one.

We will place all non-confidential submissions on our website at www.aer.gov.au. For further information regarding our use and disclosure of information provided to us, see the *ACCC/AER Information Policy*, June 2014 available on our website.

Please direct enquiries about this paper to Mark Wilson at Mark.Wilson@aer.gov.au or on (08) 8213 3419.

2 Background

We are required to publish a TAPR Guideline under Clause 5.14B.1 of the National Electricity Rules (the rules). This Guideline will support the consistent provision of information by TNSPs across the National Electricity Market (NEM).

Our role in publishing a TAPR Guideline arose from the transmission connection and planning arrangements rule determination of May 2017.[2] The Australian Energy Market Commission's (AEMC's) consultation on that rule change referenced our earlier work which led to the rule change and the TNSPs' efforts to date to achieve a more consistent approach.

Our work commenced in 2014, when we commenced collaborating with TNSPs. This collaboration included holding an industry wide workshop to improve the quality of TAPRs, with a similar workshop convened with DNSPs in 2015. After this, we held one-on-one meetings with each network service provider (NSP) to outline our views of any shortcomings compared to the rule requirements. These meetings also aimed to drive improvements through NSPs agreeing to improvement action plans.

Since that work, we have continued a number of related reviews. In 2016, we proposed a rule change that was finalised by the AEMC in July 2017. The new rule requires NSPs to provide information on all planned asset retirements (and de-ratings that lead to a network need) in their annual planning reports and to conduct a regulatory investment test for network replacement decisions.[3] Following the release of the rule, several NSPs requested guidance on how to undertake the risk assessment required to demonstrate efficient asset retirements. In October 2017, we held a workshop with all NSPs to outline our views on the new obligations. We have also commenced collaborating on this with Energy Networks Australia's (ENA's) asset management committee. Our work will continue through 2018 and we propose to finalise our thinking around late September 2018.

In June 2017, following informal consultation with DNSPs and non-network providers, we published the System Limitations Template which will improve the consistency and useability of DAPRs across the NEM. The template will also improve the ability for non-network providers to identify and propose solutions to addressed identified network needs.

At the same time, the Australian Energy Market Operator (AEMO) is developing its inaugural Integrated System Plan (ISP). The ISP was recommended by the Independent Review into the Future Security of the NEM to facilitate the efficient development and connection of renewable energy zones across the NEM.

Because of these reviews, we considered that consultation on the TAPR Guideline benefited from a small delay. While we acknowledge that this may result in less consistency in the 2018 TAPRs, we believe that it is in the best interest of customers that we take a considered approach.

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2 AEMC, *Rule determination: National electricity amendment (transmission connection and planning arrangements) rule 2017*, 23 May 2017.

3 AER, *Request for rule change — Replacement expenditure planning arrangements,* 30 July 2017; AEMC, *Rule determination: National electricity amendment (replacement expenditure planning arrangements) rule 2017*, 18 July 2017.

3 Stakeholder engagement

The rules require that we conduct our consultation in accordance with the transmission consultation procedures. The transmission consultation procedures require that we publish:

- the proposed guideline, model, scheme, amendment or revised value or methodology;
- an explanatory statement that sets out the provision of the rules under or for the purposes of which the guideline, model, scheme or amendment is proposed to be made or developed or the value or methodology that is required to be reviewed. This must also include the reasons for the proposed guideline, model, scheme, amendment or revised value or methodology; and
- an invitation for written submissions on the proposed guideline, model, scheme, amendment or revised value or methodology.[4]

We must allow 30 business days for making a submission in response to the proposed guideline and must publish our final decision within 80 business days of publishing the proposed guideline.

However, given that this is the first time that we are developing the TAPR Guideline, we will add an additional step prior to the prescribed consultation. Our proposed steps and timeframes is set out in table 1. At the same time, we will conduct informal engagement with a number of parties.

Table 1: TAPR Guideline consultation timeframe

Milestone	Date
Informal consultation with generators, large customers and non-network service providers	April 2018
Submissions on consultation paper close	18 May 2018
Draft TAPR Guideline released	Late June 2018
Public forum	July 2018
Submission on proposed TAPR Guideline close	Mid-August 2018
TAPR Guideline released	Late September 2018

We convened a workshop with TNSPs in December 2017, where we discussed some of our initial thinking and asked them to provide us a list of contacts of generators, large customers and non-network service providers so that we could engage with them outside our discussions with the TNSPs. That workshop has informed our approach in this consultation paper.

4 See NER, Rule 6A.20, Part H.

4 Proposed Guideline information

There are around 300 transmission connection points in the NEM with associated transmission lines. Therefore, the volume of information required to be published by TNSPs is significantly less than the information DNSPs must publish as part of the System Limitations Template, which is limited to information on emerging limitations.

Our initial thinking is that TNSPs should publish, and keep up to date, five years of historical information for connection points and transmission lines. This will assist connecting generators and large customers understand how their connections might affect the network. This will also assist them in understanding what network augmentations would be needed to facilitate their connections.

We also propose that certain information be published on emerging limitations to support non-network service providers in delivering alternative options. This information is intended to inform a non-network provider whether it could deliver a non-network solution to address the identified need. We will look at whether we will need to impose some cost thresholds for projects where non-network providers would unlikely deliver a feasible alternative (for example, line remediation works of reinforcing tower footings).

We also propose that the information be published in a structured form that can be easily ingested by computers for analytical comparisons, for parties intending to perform more sophisticated analysis. It will not be in the form of prescriptive chapter headings, sections and specific sub-sections that a TAPR might contain. We will outline a detailed requirement when we release our proposed TAPR Guideline.

We propose that TNSPs publish the information listed in sections 4.1 to 4.3.

4.1 Transmission Connection Point

We propose TNSPs publish the following information on transmission connection points.

Connection Point ID

Name of the transmission connection point and TNSP unique ID.

Connection Point Location

Latitude and longitude of the connection point.

Customer number and type connected to connection point

This must be expressed as total number of customers that are connected to the connection point, broken down by industrial, commercial and residential.

Load forecast

The 10% probability of exceedance (POE) and 50% POE peak demand forecasts, as well as the forecast daily demand profile expressed in mega volt amperes (MVA).

Historic load trace

This must be provided for the past five years and deliver information at a minimum 30 minute intervals.

Historic primary plant ratings

This must be provided for the past five years and highlight how the asset rating has changed over time and how it has affected the loading.

Value of Customer Reliability

Expressed as dollars per megawatt hour ($/MWh), broken down into relevant customer classes (for example, industrial, commercial and residential).

Outages

Where there is an impact on customers or a material impact on the market, this must include the outage date, cause, duration and consequence for the past five years.

Primary plant asset age

Asset age of individual primary plant at each connection point, including an estimate of the remaining life and detail about how this has been calculated.

Primary plant fault rating

Maximum and minimum fault rating of equipment, expressed in MVA.

Primary plant reactive capability

Maximum and minimum reactive capability of equipment, expressed in MVA.

4.2 Transmission line

We propose TNSPs publish the following information on transmission lines.

Transmission line ID

Name of the transmission line and TNSP unique ID.

Transmission Point Location

Latitude and longitude of the beginning and end of transmission line.

Conductor type, rating and year of installation

The conductor type (including rating) for each section that has a materially different rating and year installed.

Historic load trace

This will inform the non-network user of how the load has flowed through the network. This must be provided for the past five years and deliver information at a minimum 30 minute intervals.

Outages

Where there is an impact on customers or a material impact on the market, this must include outage date, cause, duration and consequence for the past five years.

4.3 Emerging limitations

We propose TNSPs publish the following information on emerging limitations.

Constraint type and driver

Information must be supplied on what technical or legal requirement is giving rise to the constraint. This must specify whether it is driven by capacity, reliability, power quality, operational, voltage stability, transient stability, oscillatory stability, reactive support, compliance, market benefit, environmental, safety or other. This must also specify whether it is an augmentation or a replacement investment.

Limitation location

Information must be supplied on the location of the constraint.

Maximum load at risk per year

Expressed in MVA.

Hours of load at risk total per annum and on the peak day

Expressed as the number of hours the constraint is expected to last and for how long the solution is required.

Expected unserved energy

Expressed as MWh.

Economic cost of constraint

Expressed in $ millions. For example, this might be the annual cost of unserved energy and is the product of the Value of Customer Reliability and expected unserved energy.

Preferred network solution

This will inform the non-network provider what sort of network investment the DNSP is contemplating to address the need, a description of the project scope and cost ($ millions).

Proposed timing

This will provide the non-network provider sufficient information on when it must install its solution.