



Government of Western Australia
Department of Finance
Public Utilities Office

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

Electricity Market Review

Department of Finance | Public Utilities Office

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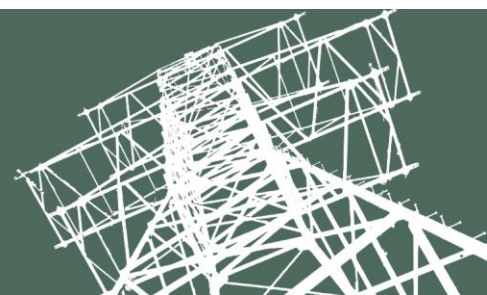


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1. Introduction

One of the reform projects being progressed as part of the Electricity Market Review is the transfer of the regulation of the Western Power network¹ to the national regulatory framework. This reform will be implemented by adopting the National Electricity Law and the National Electricity Rules.

The National Electricity Law is expected to apply in Western Australia from November 2016, with some parts of the National Electricity Rules applying from that time to facilitate the regulatory process for Western Power's first transmission and distribution regulatory determinations by the Australian Energy Regulator. All other parts of the National Electricity Rules being adopted will commence from 1 July 2018 when Western Power's first regulatory control period commences.

One of the aspects of the national framework being adopted for regulation of Western Power's network is the connection and access framework prescribed in Chapter 5 of the National Electricity Rules.² Under Chapter 5 the Australian Energy Market Operator has functions that it is required to carry out in its capacity as the market and system operator of the National Electricity Market. One of these functions is that of a National Transmission Planner.

Chapter 5 of the National Electricity Rules obliges the Australian Energy Market Operator as National Transmission Planner to produce an annual National Transmission Network Development Plan.³

The National Transmission Network Development Plan has two main purposes.

1. To provide a national strategic perspective for transmission planning and coordination in the National Electricity Market over a 20 year planning horizon.
2. To identify any gaps in the level of network support and control ancillary services that may occur in the next five years.⁴ These are services that may be needed to manage the security and reliability of the National Electricity Market in the near term.

The scope of the National Transmission Network Development Plan is to identify the potential limitations of transmission capability across major paths in the interconnected grid in the National Electricity Market. It provides independent information to the National Electricity Market participants about historical and projected electricity flows, network capacity and the frequency and impact of potential limitations that can represent major sources of congestion.⁵

The aim of the National Transmission Network Development Plan is to provide a more strategic and long term view in relation to transmission planning that informs and complements the shorter-term investment planning activities of the Transmission Network Service Providers and, as a result, promotes efficient outcomes for consumers.

¹ Western Power's network forms the vast majority of the South West Interconnected Network, which is a component part of the larger South West Interconnected System.

² Chapter 5A of the National Electricity Rules will also be adopted as the connection and access framework for small customers. However Chapter 5A is not relevant for the purposes of this position paper.

³ Clause 5.20 of the National Electricity Rules.

⁴ Network Support and Control Ancillary Services are non-market services designed to maintain power system security and reliability, and to maintain or increase the power transfer capability of the transmission network. These services are procured by Transmission Network Service Providers (or the Australian Energy Market Operator as a last resort) where operational measures, such as switching lines out of service, are no longer feasible.

⁵ The Australian Energy Market Operator under the National Transmission Network Development Plan is also required to provide information on congestion on national transmission flow paths but this is related to its function under Chapter 3 of the National Electricity Rules to provide a congestion information resource (Clause 3.7A of the National Electricity Rules). Chapter 3 will not be adopted for Western Australia.

The National Transmission Network Development Plan is not meant to replace local planning or bind transmission businesses to specific investment decisions. Also, while the Australian Energy Regulator must have regard to National Transmission Network Development Plan in assessing transmission capital expenditure proposals, the National Transmission Network Development Plan does not bind the Australian Energy Regulator in its determinations on transmission revenue allowances.

The Electricity Market Review has determined that the Australian Energy Market Operator's role as National Transmission Planner under Chapter 5 of the National Electricity Rules will not be adopted in Western Australia. The primary reason for this is that Western Power's network will not be interconnected in the national grid. Consequently, it would be unsuitable for the National Transmission Network Development Plan to be extended to the South West Interconnected System.

However, as the Australian Energy Market Operator is the new market operator in the South West Interconnected System, there is an opportunity to consider whether it could undertake a similar function to its National Transmission Planner role in producing a document that provides information on network capacity and the frequency and impact of congestion within the South West Interconnected System.

There are benefits for market participants in the Wholesale Electricity Market if a document like the National Transmission Network Development Plan was introduced for the South West Interconnected System. As such, this paper sets out a proposal that the Australian Energy Market Operator (in its capacity as the market operator for the Wholesale Electricity Market) produce a local equivalent of the publication of the National Transmission Network Development Plan called the "Transmission Network Outlook".

The requirement to produce the Transmission Network Outlook document would be established in the Wholesale Electricity Market Rules. The rules will reflect the specific characteristics and requirements of the South West Interconnected System relevant to planning for the transmission network.

The Australian Energy Market Operator will be empowered to produce forecasts of electricity demand regionally⁶ and at specific transmission connection point as part of its responsibility for producing the Transmission Network Outlook.⁷

The Transmission Network Outlook would improve transparency through the provision of independent and credible information on existing and future network capability and congestion in the South West Interconnected System. This would enable Wholesale Electricity Market participants in particular to make more cost effective and informed operational and investment decisions.



It is acknowledged that Western Power produces an "Annual Planning Report" that provides information on the factors Western Power considers in addressing network issues and proposed network (and non-network) solutions to manage emerging constraints, transmission system issues and customer needs. The Annual Planning Report compliments the Australian Energy Market Operator's Electricity Statement of Opportunities that focuses

⁶ The Australian Energy Market Operator already produces electricity and demand forecasts for the South West Interconnected System (as a region) as part of its Electricity Statement of Opportunities. It is proposed that the Australian Energy Market Operator is also empowered with the capability to make connection point forecasts to support its local planning and operational function, as required.

⁷ Clause 5.20.6 of the National Electricity Rules states that the National Transmission Planner functions includes developing any forecasts of electricity demand at a regional or connection point level. However, the requirement for the Australian Energy Market Operator to develop 10 year connection point forecasts comes at the direction of the Council of Australian Governments and the forecasts are published in separate documents to the National Transmission Network Development Plan.

on the overall adequacy of generation capacity. Western Power will continue to be obliged to publish an Annual Planning Report following the adoption of the National Electricity Rules.

It is not proposed that the Transmission Network Outlook replicates the information provided in Western Power's Annual Planning Report. Instead, the Transmission Network Outlook will provide a high-level overview of transmission system adequacy of "major transmission corridors", and the adequacy of transmission system security. The purpose is to signal potential security and reliability shortfalls over the planning horizon. It is expected that the Transmission Network Outlook would contain more planning scenarios of generation and demand patterns over the major transmission corridors of the South West Interconnected System and provide more information on the economic consequences of forecast congestion along these major flow paths.

The purpose of this position paper is to outline the proposal for the Australian Energy Market Operator to have the function of preparing the Transmission Network Outlook and seek feedback from stakeholders. Written submissions are invited by 15 July 2016. Instructions on how to make a submission can be found in Section 5 of this paper.

Submissions on this Position Paper will be considered in developing advice to the Minister for Energy on the preferred design and proposed amendments to the Wholesale Electricity Market Rules.

2. National Transmission Network Development Plan

The Australian Energy Market Operator is conferred statutory functions under section 49(2) of the National Electricity Law that requires it to:

- prepare, maintain and publish a plan for the development of the national transmission grid – the National Transmission Network Development Plan – in accordance with the National Electricity Rules;
- establish and maintain a database of information relevant to planning the development of the national transmission grid and to make the database available to the public;
- keep the national transmission grid under review and provide advice on the development of the grid or projects that could affect the grid;
- provide a national strategic perspective for transmission planning and coordination; and
- perform any other functions conferred on the Australian Energy Market Operator under the National Electricity Law or the National Electricity Rules in its capacity as National Transmission Planner.

Most of the obligations of the Australian Energy Market Operator as a National Transmission Planner are specified in Chapter 5 of the National Electricity Rules. This includes the publication of a National Transmission Network Development Plan, an annual publication that is focused on the national transmission grid.

The National Transmission Network Development Plan primarily reports on the status of existing and potential national transmission flow paths⁸ having due consideration to the Network Service Provider's Annual Planning Reports and other relevant documents. The Plan provides historical and projected information on electricity flows, network capacity and the frequency and impact of congestion (constraints), among others, for a forecast horizon of at least 20 years.

The National Transmission Network Development Plan is intended to keep the national transmission grid under review as well as provide advice on the development of projects that could affect the national grid and areas of network congestion with an effect on outcomes in the National Electricity Market. The Plan complements the various Transmission Network Service Provider Annual Planning Reports and offers the market participants, Network Service Providers and the Australian Energy Regulator an independent view of:

- credible scenarios for future location and patterns of generation and demand over the 20 year planning horizon;
- the current, and potentially new, major paths of the national grid where significant electricity will be transported;
- potential constraints, including congestion points, on those national transmission flow paths;
- the range of technically feasible network **and non-network options** for relieving identified constraints; and
- a development strategy for each existing and potential national transmission flow path, including an assessment as to which option or options would provide the most efficient strategy for the development of national grid.

⁸ That portion of a transmission network or transmission networks used to transport significant amounts of electricity between generation centres and load centres.

Some of the differences between the National Transmission Network Development Plan and a Transmission Network Service Provider's Transmission Annual Planning Report include:⁹

- more modelling of the impacts of different generation and demand scenarios on major transmission corridors;
- potentially more analysis on the materiality of congestion at the forecast constraints; and
- an assessment of the economic benefits from the potential options.

In developing the National Transmission Network Development Plan the Australian Energy Market Operator must take into account the current or likely capacity of the national transmission flow paths as part of its identification of potential constraints. Consequently, the Transmission Network Development Plan benefits from the information in the Annual Planning Reports regarding project options being considered by the Network Service Providers. This assists the Australian Energy Market Operator preparing its development strategies for each national transmission flow path.

In assessing the development strategy for each national transmission flow path, the Australian Energy Market Operator, to the extent reasonably practicable, must consider the:

- co-optimisation of network and non-network investment;
- maximisation of net economic benefit to all those who produce, consume and transport electricity to the market; and
- service standards that are linked to the technical requirements of Schedule 5.1 of the National Electricity Rules, or an applicable regulatory instruments.

In its capacity as National Transmission Planner, the Australian Energy Market Operator is also required to provide a five year assessment of any gaps in the current level of acquired network support control and ancillary services against the needs of the power system, given the power system security standards and the reliability standard. This information will assist the Transmission Network Service Providers in their decision making.

The Australian Energy Market Operator will then be limited to acquiring Network Support and Control Ancillary Services when supply to customers is expected to be threatened, and then only after a Transmission Network Service Provider has failed to address the gaps identified in the National Transmission Network Development Plan.

To assist market participants and network service providers' consideration of the National Transmission Network Development Plan, the Australian Energy Market Operator is also required to maintain and publish a database of assumptions methods and input data used in developing the National Transmission Network Development Plan. This increases transparency of the National Transmission Network Development Plan and should enable participants to replicate and develop their own modelling.

⁹ Under clause 5.12.2 of the National Electricity Rules, each transmission network service provider must publish a Transmission Annual Planning Report by 30 June of each year.

3. Proposed Transmission Network Outlook

Similar information made available to the National Electricity Market by the National Transmission Network Development Plan should be made available to market participants in the Wholesale Electricity Market. This could best be achieved through a local Transmission Network Outlook, a local equivalent of the National Transmission Network Development Plan, with some modifications to take into account relevant local conditions and the lack of interconnection.

The Transmission Network Outlook would provide a high level assessment of the potential constraints and potential investment on the major flow paths in the South West Interconnected System and would complement information provided by Western Power in its Annual Planning Report.

Respondents are encouraged to provide comment on the proposed content for the Transmission Network Outlook, giving specific consideration to the questions identified in the sections below.

3.1 Proposed content

3.1.1 Principal elements


The main aspects of the National Transmission Network Development Plan that are considered important to the South West Interconnected System, and which the Transmission Network Outlook could report on, include:

- existing and projected levels of transmission network congestion
- existing and projected quantities of electricity flowing on main transmission corridors;
- existing and projected capabilities of main transmission corridors (including trends in network constraints and investment);
- development strategies for the main transmission corridors;
- transmission connection point forecasts; and
- additional Network Support and Control Ancillary Services required to support the transmission network to manage power system security and reliability.

The above information in regard to energy flows across the transmission system, the security of supply and trends in network constraints across time would prove valuable to the market. This information is important given that Western Power's transmission network will be transitioning to a constrained network access regime and little or no information would otherwise be available to market participants about future network congestion patterns affecting physical dispatch of generators in the Wholesale Electricity Market.

The following sub-sections discuss the proposed matters to be reported on in the Transmission Network Outlook, and identify other matters that will need to be determined as part of the detailed design for the Transmission Network Outlook.

Respondents are asked to provide comment on:

- the usefulness  of the proposed information to be included in the Transmission Network Outlook; and
- any additional matters that may be necessary or desirable for inclusion in the Transmission Network Outlook, with supporting reasons.

3.1.2 Assessment of transmission network adequacy

The value of network development strategies for each major corridor in a single isolated network might be less than in the larger interconnected National Electricity Market. In the case of the national grid, the National Transmission Network Development Plan provides coverage of major interconnectors between regions with considerable diversity in electricity trends, and works to coordinate and optimise various network service provider plans.

Although coverage of the Transmission Network Outlook will be considerably smaller, there remains some value in having the Australian Energy Market Operator independently prepare future market scenarios and development strategies for the ‘major transmission corridors’ within the South West Interconnected System.

The Electricity Market Review is proposing to define “major transmission corridors” in the South West Interconnected System as “that portion of a transmission network or transmission networks used to transport significant amounts of electricity between generation centres and load centres”. This is identical to the definition of “national transmission flow path” that is reported on in the National Transmission Network Development Plan.¹⁰

An initial list of major transmission corridors could be based on a set of criteria established through consultation between Western Power and the Australian Energy Market Operator, and also through broader consultation with industry. There may be between five and ten major transmission corridors in the South West Interconnected System represented as groupings of high voltage bulk transmission lines between major network generation and load terminal sites. The identification of such corridors could change over time as demand and supply patterns change.

There may be value in having development strategies for each major transmission corridor in the Transmission Network Outlook is worthwhile, especially as the Western Power’s transmission network transitions to a constrained access model and the impact of future trends in technology and consumer behaviour on demand remains somewhat uncertain.

¹⁰ The National Transmission Network Development Plan goes on to note that the definition “generally refers to lines of nominal voltage of 220kV and above”. Different voltage(s) may be specified for the major transmission corridors in the South West Interconnected System.

Respondents are asked to provide comment on:

- the suitability of the proposed definition of ‘major transmission corridor’ in the South West Interconnected System for the purposes of the Transmission Network Outlook; and
- whether a major transmission corridor should be determined on the basis of a set of criteria, and suggestions for what those criteria could be; or
- whether a major transmission corridor should be determined by some other method, and suggestions for what that method should be.

3.1.3 Assessment of power system security

In terms of power system security and reliability, the National Transmission Network Development Plan looks at whether there is sufficient Network Support and Control Ancillary Services.¹¹ These are contracts designed to maintain power system security and reliability, and to maintain or increase the power transfer capability of the transmission network. These services are procured by Transmission Network Service Providers, or by the Australian Energy Market Operator as a last resort, where operational measures are no longer sufficient or feasible to maintain security and reliability.

As part of its Transmission Planner functions, the Australian Energy Market Operator is required to perform an assessment to determine whether there are sufficient Network Support and Control Ancillary Services to maintain power system security and reliability of supply of the transmission network in accordance with power system security standards and the reliability standard over the next five years. The Transmission Network Development Plan must contain this assessment.


Consistent with the National Transmission Network Development Plan, the Transmission Network Outlook will also provide a five year forecast of limitations in meeting the power system security standards. However, it is not proposed that the Transmission Network Outlook contains an assessment against local reliability standards.

The National Transmission Network Development Plan includes an assessment against the reliability standard with respect to generation and interconnector transfer capability to meet regional unserved energy thresholds.¹² As there are no interconnectors within the South West Interconnected System, an assessment would only be made against generation adequacy only.

A similar assessment is already performed by the Australian Energy Market Operator under the Wholesale Electricity Market Rules for generation adequacy as part of the reserve capacity mechanism for committed plants in the South West Interconnected System. Consequently, it is proposed that an assessment against local reliability standards is omitted from the Transmission Network Outlook.

¹¹ The term “NSCAS need” is defined under Chapter 7 of the NER as: Network support and control ancillary service required to: a) maintain power system security and reliability of supply of the transmission network in accordance with the power system security standards and the reliability standard; and b) maintain or increase the power transfer capability of that transmission network so as to maximise the present value of net economic benefit to all those who produce, consume or transport electricity in the market.

¹² Clause 3.9.3C of the National Electricity Rules.


Respondents are asked to indicate whether they support the proposal to exclude an assessment against local reliability standards in the Transmission Network Outlook. 

3.1.4 Electricity and demand forecasts

It is proposed that the Transmission Network Outlook contains information on transmission connection point forecasts for the South West Interconnected System. This will provide greater transparency and will lead to more efficient network investment decisions. This will be similar to the information that the Australian Energy Market Operator publishes for the National Energy Market jurisdictions.¹³

In order to fulfil its role as National Transmission Planner, the Australian Energy Market Operator requires regional and, in some cases, transmission connection point electricity and demand forecasts. This information is necessary to support production of the National Transmission Network Development Plan and also assists with modelling the power system for the purpose of power system security and reliability assessments, among other reasons. The Australian Energy Market Operator is empowered under the National Electricity Rules to prepare these forecasts as required, at its own discretion.¹⁴

In order for the Australian Energy Market Operator to adequately prepare the Transmission Network Outlook it may require access to similar types of information. It is proposed that the Wholesale Electricity Market Rules empower the Australian Energy Market Operator to gather the information it needs to develop transmission connection point electricity and demand forecasts for the South West Interconnected Network from a “jurisdictional planning body” (see the next section), and where necessary, from market participants.

Respondents are asked to indicate whether they support  the proposal to give the Australian Energy Market Operator the power to, where necessary, to seek information from a jurisdictional planning body and market participants to develop connection point electricity and demand forecasts.

3.1.5 Jurisdictional planning body

As part of preparation of the National Transmission Network Development Plan the Australian Energy Market Operator can request assistance from a “jurisdictional planning body” to provide information reasonably required to assist it with meeting its obligations.¹⁵

Under the National Electricity Rules, a jurisdictional planning body is an entity nominated by the relevant Minister of a participating jurisdiction that has transmission system planning responsibility (in that participating jurisdiction). In the National Electricity Market the jurisdictional planning bodies are typically all transmission network service providers, with

¹³ See Australian Energy Market Operator Transmission connection point forecasting report on: <http://www.aemo.com.au/Electricity/Planning/Forecasting/AEMO-Transmission-Connection-Point-Forecasting>


¹⁴ Clause 5.20.6 of the National Electricity Rules.

¹⁵ Ibid.

exception of Victoria where the Australian Energy Market Operator is the responsible planning body.

Western Power as the main transmission network service provider in the South West Interconnected System would be the most suitable jurisdictional planning body equivalent for the South West Interconnected System. This is consistent with arrangements in the National Electricity Market and reflects that Western Power will have all the necessary information regarding its transmission network within the South West Interconnected System.

The role of the jurisdictional planning body is typically to provide data about its network including such things as demand, network capability, project options and forecast constraints. Under the Electricity Market Review's proposal, there will not be any transfer of resources or responsibility between Western Power as the jurisdictional planning body and the Australian Energy Market Operator for the production of the Transmission Network Outlook.

Respondents are asked to indicate whether they support Western Power being the 'jurisdictional planning body' equivalent with obligations to provide information to assist the Australian Energy Market Operator in preparing the Transmission Network Outlook. 


3.1.6 Planning horizon and publication

Given the Transmission Network Outlook will have considerably less coverage than the National Transmission Network Development Plan, it may fit well within the content of the existing South West Interconnected System Electricity Statement of Opportunities publication, rather than as an independent document.

It is proposed that the Australian Energy Market Operator publish a Transmission Network Outlook inputs document for consultation prior to the development of the Transmission Network Outlook, consistent with the process of developing the National Transmission Network Development Plan.

The National Transmission Network Development Plan has a forecast horizon of at least 20 years. It is proposed that the Transmission Network Outlook have a forecast horizon of at least 10 years, at least initially. This recognises that the transmission network in the South West Interconnected System is significantly smaller with less diversity than the national grid and its various interconnected networks.



It is also proposed that the Australian Energy Market Operator will have the flexibility to elect to extend the horizon beyond 10 years, where it considers it necessary. The 10 year study horizon aligns with the time horizons of the Electricity Statement of Opportunities¹⁶ and Western Power's Annual Planning Report.

It is proposed that the first Transmission Network Outlook would be published mid-year, at the same time as the 2019 Electricity Statement of Opportunities, and will include the most recent information used in Western Power's Annual Planning Report.  This will give the

¹⁶ The Electricity Statement of Opportunities' 10 year study horizon reflects the time horizon for the Long Term Projected Assessment of System Adequacy.


Australian Energy Market Operator sufficient time to develop scenarios for development strategies, as well as allow reporting on at least one year of transmission network performance under a constrained market, which is expected to commence from 1 July 2018.

Respondents are asked to indicate whether they support:

- the proposal for the Australian Energy Market Operator to publish the Transmission Network Outlook as part of the Electricity Statement of Opportunities 
- the proposal for the Transmission Network Outlook to have an initial forecast horizon of at least 10 years, with the Australian Energy Market Operator given flexibility to extend the horizon beyond 10 years where it considers it necessary 

3.1.7 Western Power's Annual Planning Report

Western Power's Annual Planning Report offers Western Power's view of the nature and location of emerging capacity constraints of its transmission and distribution network and identifies potential network and non-network solutions to address the congestion areas.

The Annual Planning Report is published mid-year  takes into consideration, among other things, Western Power's funding constraints and an assessment of the efficacy of expenditure to recover a full commercial return on investment, and to this extent, does not prioritise the net economic benefits to all market participants for the purpose of signalling investment in the transmission network.

While it is intended that the Transmission Network Outlook is informed by market participants, including Western Power as the network service provider, the Transmission Network Outlook will not be subject to the factors that Western Power must consider in the development of the Annual Planning Report. The Transmission Network Outlook will focus only on the major transmission corridors. In addition, all inputs to the development of the Transmission Network Outlook will be published via the public Transmission Network Outlook database (see section below).

The development and publication of the Transmission Network Outlook is will be an obligation that is placed on the Australian Energy Market Operator under the Wholesale Electricity Market Rules.

At present there is no obligation on Western Power to publish the Annual Planning Report under the current Western Australian legislation. As part of the adoption of Chapter 5 of the National Electricity Rules, Western Power will be required to prepare and publish each year by 30 June a detailed Transmission Annual Planning Report which, among other things, forecasts network limitations and proposes options to relieve those limitations.


The document must contain a forecast of constraints and inability to meet the network performance requirements set out in schedule 5.1 of the National Electricity Rules or relevant legislation or regulations of a participating jurisdiction over 1, 3 and 5 year


timeframe.¹⁷ It is not, however, required to provide transmission network congestion forecasts.

3.2 Proposed content of the Transmission Network Outlook database

Under Chapter 5 of the National Electricity Rules¹⁸, the Australian Energy Market Operator must publish, maintain and make available to the public a database that provides the National Electricity Market with a host of information and input assumptions used to prepare the most recent National Transmission Network Development Plan. This includes:

- assumptions made about the cost of fuel used for the generation of electricity (including gas and coal);
- the conversion factors used to relate the consumption of a given quantity of fuel to the production of electricity using that quantity of fuel;
- assumptions about the capital costs associated with the generation of electricity;
- prevailing location of generation capacity;
- assumptions about the price of carbon; and
- electricity demand forecasts.

It is proposed a similar database be made available for the South West Interconnected System Wholesale Electricity Market providing participants with the inputs and assumptions used for the most recent Transmission Network Outlook (including any transmission connection point forecasts). 

Respondents are asked to indicate whether they support 

- the proposal for the Australian Energy Market Operator to publish, maintain and make publicly available a Transmission Network Outlook database; and
- the proposed contents of the a Transmission Network Outlook database.

3.3 Other obligations under Chapter 5 of the National Electricity Rules are not affected

Publication of the Transmission Network Outlook will not change any of the Australian Energy Market Operator's other functions required under Chapter 5 of the National Electricity Rules.

Similarly, publication of the Transmission Network Outlook will not change any of Western Power's obligations to publish its Transmission Annual Planning Report and Distribution Annual Planning Report in accordance with the requirements in Chapter 5 of the National Electricity Rules.

¹⁷ Clause 5.12.2(c) of the National Electricity Rules.

¹⁸ Clause 5.20.4 of the National Electricity Rules.

4. Rationale for the Transmission Network Outlook

The Transmission Network Outlook will complement the Wholesale Electricity Market Electricity Statement of Opportunities and be informed by Western Power's Transmission Annual Planning Report in the same way that the National Transmission Network Development Plan complements the National Electricity Market Electricity Statement of Opportunities and is informed by the Transmission Network Service Providers' Transmission Annual Planning Reports.

The Transmission Network Outlook will not duplicate, to the extent that is practicable and reasonable, information provided in the Wholesale Electricity Market Electricity Statement of Opportunities or Western Power's Transmission Annual Planning Report. To the extent that overlaps may be arise in the information reported in these documents, Western Power and the Australian Energy Market Operator will be required to work together to ensure that documents complement one another and do not replicate information (unless necessary).

The potential value-add of the Transmission Network Outlook over the Wholesale Electricity Market Electricity Statement of Opportunities and Western Power's Transmission Annual Planning Report will be the following.

- The Transmission Network Outlook corrects information asymmetries that arise from the planning considerations that Western Power (as the network service provider) must take into account when developing its Annual Planning Report.
- The Transmission Network Outlook will provide a more strategic assessment of likely constraints and congestion and potential solution options by focusing only on the major transmission corridors, providing investment signals for major growth areas in the context of a constrained network regime.
- The point of difference between the Transmission Network Outlook and Western Power's Annual Planning Report is the materiality of congestion at identified constraints and an assessment of the economic benefits to market participants from the potential solution options.
- All inputs to the development of the Transmission Network Outlook will be published and made publicly available via the public Transmission Network Outlook database.
- The Transmission Network Outlook will contain transmission connection point forecasts to support the Australian Energy Market Operator's local planning and operational functions, as required.
 - The transmission connection point forecasts will augment the electricity and demand forecasts for the South West Interconnected System 'region' that the Australian Energy Market Operator already produces as part of its Electricity Statement of Opportunities.
- The Transmission Network Outlook will provide a material improvement in the quality and granularity of information over that provided in the Electricity Statement of Opportunities with regard to transmission network capacity, losses, and network and security constraints.

- The Electricity Statement of Opportunities must use as input information into a study into the Long Term Projected Assessment of System Adequacy any assumptions about transmission network capacity, losses, and network and security constraints, which affect the results of the study. However, to date, the Wholesale Electricity Market Rules have assumed the existence of an unconstrained network access model with input information in regard to transmission network capacity and constraints reported at a high level.
- The Transmission Network Outlook would contain more planning scenarios of generation and demand patterns over the major transmission corridors of the South West Interconnected System and provide more information on the economic impacts of forecast congestion along these major flow paths.

5. Costs to market participants

The proposed introduction of a Transmission Network Outlook requirement is expected to be implemented with minimal initial and on-going costs to market participants.

All costs for the production of forecasts of electricity demand (at regional or connection point level), the Transmission Network Outlook publication, and the development and operation of the Transmission Network Outlook database, will be recovered through the existing fee structure under the Wholesale Electricity Market Rules. It is expected the Australian Energy Market Operator will recover the costs of developing the Transmission Network Outlook and the Transmission Network Outlook database via the existing Market Fee.

There are likely to be efficiencies in having the Australian Energy Market Operator fulfil the Transmission Network Outlook requirement. The Australian Energy Market Operator already performs similar functions as part of its role as the National Transmission Planner in the National Electricity Market and is required to produce the Electricity Statement of Opportunities under the Wholesale Market Rules.

Where the Transmission Network Outlook is produced as part of the Electricity Statement of Opportunities, this will likely be undertaken at an incremental administrative cost.

It is expected that Western Power's costs of contributing to the development of Transmission Network Outlook will be incremental to the development of its own Annual Planning Report.

The initial indicative cost of producing forecasts of electricity demand and the Transmission Network Outlook publication, and the development and operation of the Transmission Network Outlook database is expected to be approximately \$500,000 per annum.

Respondents are asked to indicate whether they support the proposal for recovering the costs of producing forecasts of electricity demand (regional or connection point level), the Transmission Network Outlook publication, and the Transmission Network Outlook database, from market participants through the existing fee structure under the Wholesale Electricity Market Rules.

6. Consultation process

6.1 Invitation for submissions

Respondents are invited to provide comment on this proposal for the Australian Energy Market Operator to produce a Transmission Network Outlook for the South West Interconnected System as outlined in this Position Paper.

Submissions are due by 15 July 2016 and must be sent to the following email address:

electricitymarketreview@finance.wa.gov.au

Email submissions are to be entitled "Transmission Network planning response - [Name of the submitting company or individual]".

6.2 Publication of submissions

Submissions will be available for public review at www.finance.wa.gov.au/publicutilitiesoffice, unless you request otherwise.

Please indicate clearly on the front of your submission if you wish all or part of it to be treated as confidential. Contact information, other than your name and organisation (where applicable) will not be published.

Requests may be made under the *Freedom of Information Act 1992 (WA)* for any submissions marked confidential to be made available. Requests made in this manner will be determined in accordance with the provisions under that Act.

7. Disclaimer

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