

## Meeting Agenda

<b>Meeting Title:</b>	Power System Security and Reliability Standards Working Group
<b>Date:</b>	25 July 2024
<b>Time:</b>	1.00pm – 2.00pm
<b>Location:</b>	Online, via TEAMS.

Item	Item	Responsibility	Type	Duration
1	Welcome and Agenda	Chair	Noting	2 min
2	Meeting Apologies and Attendance	Chair	Noting	1 min
3	Competition Law Statement	Chair	Noting	1 min
4	Updates on the Technical Working Group	Chair	Noting	2 min
5	<b>Stage 3 – Develop of proposals</b> (a) Scope of stage 3 (b) Issued allocated to other EPWA workstreams (c) Proposed solutions to identified Issues	EPWA	Discussion	5 min 10 min 35 min
6	General Business	Chair	Discussion	2 min
7	Next steps	Chair	Noting	2 min
	Next meeting: TBD			

Please note, this meeting will be recorded.

## Competition and Consumer Law Obligations

Members of the MAC's Power System Security and Reliability Standards Working Group (**Members**) note their obligations under the *Competition and Consumer Act 2010 (CCA)*.

If a Member has a concern regarding the competition law implications of any issue being discussed at any meeting, please bring the matter to the immediate attention of the Chairperson.

Part IV of the CCA (titled "Restrictive Trade Practices") contains several prohibitions (rules) targeting anti-competitive conduct. These include:

- (a) **cartel conduct:** cartel conduct is an arrangement or understanding between competitors to fix prices; restrict the supply or acquisition of goods or services by parties to the arrangement; allocate customers or territories; and or rig bids.
- (b) **concerted practices:** a concerted practice can be conceived of as involving cooperation between competitors which has the purpose, effect or likely effect of substantially lessening competition, in particular, sharing Competitively Sensitive Information with competitors such as future pricing intentions and this end:
  - a concerted practice, according to the ACCC, involves a lower threshold between parties than a contract arrangement or understanding; and accordingly; and
  - a forum like the MAC is capable being a place where such cooperation could occur.
- (c) **anti-competitive contracts, arrangements understandings:** any contract, arrangement or understanding which has the purpose, effect or likely effect of substantially lessening competition.
- (d) **anti-competitive conduct (market power):** any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition.
- (e) **collective boycotts:** where a group of competitors agree not to acquire goods or services from, or not to supply goods or services to, a business with whom the group is negotiating, unless the business accepts the terms and conditions offered by the group.

A contravention of the CCA could result in a significant fine (up to \$500,000 for individuals and more than \$10 million for companies). Cartel conduct may also result in criminal sanctions, including gaol terms for individuals.

**Sensitive Information** means and includes:

- (a) commercially sensitive information belonging to a Member's organisation or business (in this document such bodies are referred to as an Industry Stakeholder); and
- (b) information which, if disclosed, would breach an Industry Stakeholder's obligations of confidence to third parties, be against laws or regulations (including competition laws), would waive legal professional privilege, or cause unreasonable prejudice to the Coordinator of Energy or the State of Western Australia).

### Guiding Principle – what not to discuss

In any circumstance in which Industry Stakeholders are or are likely to be in competition with one another a Member must not discuss or exchange with any of the other Members information that is not otherwise in the public domain about commercially sensitive matters, including without limitation the following:

- (a) the rates or prices (including any discounts or rebates) for the goods produced or the services produced by the Industry Stakeholders that are paid by or offered to third parties;
- (b) the confidential details regarding a customer or supplier of an Industry Stakeholder;
- (c) any strategies employed by an Industry Stakeholder to further any business that is or is likely to be in competition with a business of another Industry Stakeholder, (including, without limitation, any strategy related to an Industry Stakeholder's approach to bilateral contracting or bidding in the energy or ancillary/essential system services markets);
- (d) the prices paid or offered to be paid (including any aspects of a transaction) by an Industry Stakeholder to acquire goods or services from third parties; and
- (e) the confidential particulars of a third party supplier of goods or services to an Industry Stakeholder, including any circumstances in which an Industry Stakeholder has refused to or would refuse to acquire goods or services from a third party supplier or class of third party supplier.

### Compliance Procedures for Meetings

If any of the matters listed above is raised for discussion, or information is sought to be exchanged in relation to the matter, the relevant Member must object to the matter being discussed. If, despite the objection, discussion of the relevant matter continues, then the relevant Member should advise the Chairperson and cease participation in the meeting/discussion and the relevant events must be recorded in the minutes for the meeting, including the time at which the relevant Member ceased to participate.



Department of Energy, Mines,  
Industry Regulation and Safety  
Energy Policy WA

# PSSR Standards Review

## PSSR Standards Working Group

25 July 2024

Working together for a  
**brighter** energy future.

# Purpose of today's session

1. To outline the issues previously identified in Stage 2 that will be allocated to the other EPWA workstreams.
2. To begin the discussion on proposed solutions (design proposals) to identified issues under stage 2.

# Agenda

---

1:00pm **Welcome and admin**

---

1:05pm **Issues allocated to other EPWA workstreams**

---

## **Solutions to identified Issues**

1:15pm

- **Issue 1** It is not clear how each Planning Standard should be applied, and customer value is not considered in all cases.
  - **Issue 9** When PSSR Standards should over-ride economic efficiency tests
  - **Issue 2** There is not a coordinated approach to the assumptions and inputs used in forecasts required to apply the various PSSR standards.
- 

2:00pm **Finish**

---

# Stage 3 overview

We are now starting Stage 3



STAGE 1

Identify regulatory instruments in scope



STAGE 2

Identify and analyse issues



STAGE 3

Develop solutions to issues and governance



STAGE 4

Rule drafting and regulatory changes

# Scope of Stage 3

## Purpose of Stage 3

- Provide feedback on suitability and feasibility of design proposals;
- Identify impact of proposals on business operational costs;
- Identify impact of proposals on market costs;
- Provide input on any transitional arrangements required;
- Provide input on appropriate governance arrangements; and
- Provide input on monitoring, compliance and enforcement proposals

## Outcomes for Stage 3

1. Identify relevant solutions to each issue identified in Stage 2
2. Consult on proposed solutions to be put forward in the Consultation Paper
3. Consider governance arrangements for the PSSR Standards

# Scope of stage 3 – Overview

Issue	Description from Stage 2
1	It is not clear how each Standard should be applied, and customer value is not considered in all cases.
2	There is not a coordinated approach to the assumptions and inputs used in forecasts required to apply the various PSSR standards.
3	Network elements are not required to operate continuously through credible system disturbances.
4	There may be an opportunity to streamline the GPS requirements to continue to meet the security requirements of the SWIS whilst improving the efficiency of the energy transition.
5	No considered approach to compliance across classes of Users that can have a similar impact on PSSR.
6	The requirements on Energy Storage facilities are spread across multiple mechanisms in the Technical Rules and the WEM Rules and additional clarity is required.
7	The existing security standards may not adequately consider future SWIS fuel supply limitations, renewable location diversity and storage duration.
8	There is no obligation or guidance on establishing long term fault level forecasts required to confirm system facilities remain in secure operation. There is no requirement to confirm that the forecasts are being met operationally.
9	More clarity is required for when the Technical Rules should be applied as a guide to GEIP and when it the overrides economic optimisation required by the ENAC and specifically requires investment (capital or operating) in PSSR by the NSP at an efficient cost.
10	Notwithstanding NQRS Clauses 13A and 13B and Section 6A of the ENAC, there does not appear to be sufficient guidance on the responsibilities for the procurement and operation of supply solutions to provide locational services.
11	There is no coordinated approach to financial penalties for distribution outages.
12	Additional clarity is required for how all PSSR mechanisms respond to customers that request different reliability standards.
13	The existing GPS / Technical Rules governance mechanisms may not be defined in a way that is consistent or flexible enough to meet the pace of technology change or get best use from the flexibility in new technologies.
14	There is not a consistent approach to the definition of Limit and Operating Margins. The Limit Margins (delivered by Western Power) are defined, the Operating Margins (delivered by AEMO) are not.
15	Additional issues identified in the Western Power July 2023 Submission to the ERA that haven't otherwise been covered by any on the above issues (for full list please refer to the PSSR Analysis Workbook).



# Issues allocated to other EPWA Workstreams

# Issues allocated to other EPWA workstreams

## Context

- EPWA is organising the work to transfer the various provisions from the Wholesale Electricity Market (WEM) Rules, Western Power's Technical Rules, the Electricity Industry (Networks Quality and Reliability of Supply) Code 2005 (NQRS Code) across on a policy stream basis, rather than addressing it instrument by instrument.
- This project is focused on reviewing the PSSR related provisions within the relevant instruments and transfer those across to the Electricity System and Market Rules (ESMR). Other workstreams within EPWA are managing the transfer of other provisions into the EMSR. However, it is important to note that this process isn't always straightforward, and some issues have, after discussions with the PSSR Standards Technical Working Group, been identified to better be suited for other workstreams.

One of the other EPWA workstreams is the Access Framework Review (Access Review). This review will manage:

- Network coverage
- Access arrangements
- Alternative options
- Regulatory tests (inc. priority projects)
- Tariffs and pricing
- Related ancillary matters (e.g., guidelines, consultation processes, confidentiality).

# Issues allocated to other EPWA workstreams – Rationale

Issue	Description from Stage 2	Workstream	Considerations	EPWA rationale
7	The existing security standards may not adequately consider future SWIS fuel supply limitations, renewable location diversity and storage duration.	Reserve Capacity Mechanism (RCM) Review	To ensure AEMO procures an optimal amount of reserve capacity, it will need to consider how fuel limitations, renewable energy droughts and long-term storage availability affects the EUE when developing the ESOO.  AEMO currently considers these matters in the ESOO but the rules do not have specific guidance for how AEMO would address a breach of the 0.0002% requirement.	To be dealt with separately between AEMO and EPWA as part of the ongoing RCM evolution work.
10	Notwithstanding NQRS Clauses 13A and 13B and Section 6A of the ENAC, there does not appear to be sufficient guidance on the responsibilities for the procurement and operation of supply solutions to provide locational services.	Access Review	The issue lies in the existence of the parallel duplicate frameworks to procure locational services across the different instruments.	<ul style="list-style-type: none"> <li>All locational solutions must be procured through NCESS.</li> <li>Changes to remove the "alternative solutions" pathway are to be made by the Access Review</li> <li>The Access Framework project will confirm the basis on which locational service procurement or investment is recovered through network pricing.</li> </ul>
11	There is no coordinated approach to financial penalties for distribution outages	Access Review	Do not pertain to the financial penalties, but rather the inconsistencies in the standards around these.	The actual standard is being capture in Issue 1 in the PSSR Project, and issue of how financial penalties will apply is a matter to be resolved in the Access Workstream.
14	There is not a consistent approach to the definition of Limit and Operating Margins. The Limit Margins (delivered by Western Power) are defined, the Operating Margins (delivered by AEMO) are not.	To be removed from the Issues list.		AEMO publishes all margins that it establishes and applies when developing constraint equations and other PSSR related limited. Therefore, this is a non issue.

# Proposed solutions to identified Issues

**Issue 1:** It is not clear how each Planning Standard should be applied, and customer value is not considered in all cases

# Definitions

## Deterministic Planning

- Deterministic standards specify how much redundancy needs to be built into a network. Standards are expressed using 'N-x' notation, where N refers to the number of elements in a part of the network and x is the number of elements that can fail at the same time without causing an interruption to power supply.

## Probabilistic Analysis

- In the Western Power context, deterministic criteria can trigger probabilistic analysis that forecasts the actual reliability outcomes considering both reserve and forecast availability. Value of Customer Reliability (VCR) defines timing and prioritisation of Western Power solutions for reliability.

## Outcome Standards

- Standards that directedly measure the reliability outcomes for customers are referred to as Outcome Standards in this discussions. They include, for example, the System Average Interruption Duration Index (SAIDI) and the System Average Frequency Duration Index (SAIFI).

# Operation of Existing Standards for Western Power

## Interplay of deterministic standards and probabilistic planning

The Technical Rules currently apply an obligation for Western Power to:

*“design the transmission system in accordance with the applicable criteria described below” TR2.5.2  
(Deterministic)*

*“design and operate the distribution system to the N-0 criterion. TR 2.5.5.1 (Deterministic)*

The New Facilities Investment Test in the Electricity Networks Access Code 2004 (ENAC) sets out:

*‘New facilities investment satisfies the new facilities investment test if: the new facilities investment does not exceed the amount that would be invested by a service provider efficiently minimising costs’*

On top of this, Western Power applies probabilistic principles/ENAC principles to determine if an investment would be prudent and efficient, and must seek an exemption from the Economic Regulation Authority if deviating from the deterministic standards

# Operation of Existing Standards for Western Power

## Outcome based standards

The NQRS and Access Arrangement have customer reliability outcome standards in tabular form for different locations and services. Each of these mechanisms have financial penalties. The NQRS mechanisms are shown below

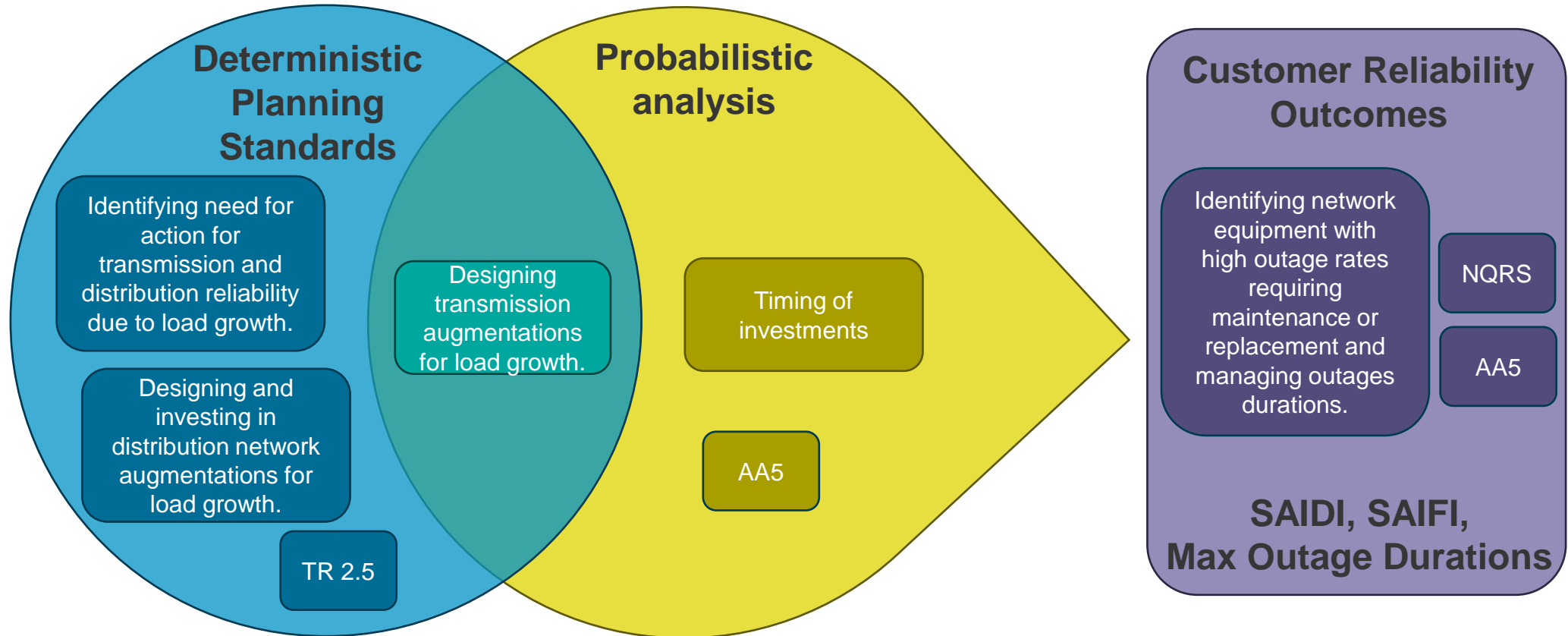
**Table**

<b>Area</b>	<b>Standard for average total length of interruptions</b>	
the Perth CBD	30	PLUS
the urban areas other than the Perth CBD	160	
any other area of the State	290	

- Any outage for a single customer cannot exceed 12 hours and 72 hours notice must be given for planned outages.
- Permitted number of interruptions for small use customers
- Reporting required under Schedule 1 on certain reliability measures.



# Operation of Existing Standards for Western Power



Deterministic Standards and Probabilistic analysis establish network designs that will meet the Outcome Based standards for normal equipment failure rates. These standards have been developed over many years based on the information that is available for the different decisions that need to be made when augmenting and maintaining a network.

# Discussion

## Deterministic Standards

### *Pros*

- Provide a basis for easily scanning the network with Power System Studies to determine areas that may not continue to deliver the required reliability outcomes due to load growth or changes in generation dispatch.
- Are a leading standard that provides a basis for engaging between parties on reliability issues.

### *Cons*

- Deterministic standards do not necessarily deliver the optimal trade-off between reliability and cost required by the Sate Electricity Objective (SEO). The deterministic standards assume a standard equipment outage rate, load growth rate and number of customers served. All of these can vary materially in different circumstances and have a material impact on timing and type of efficient expenditure.
- If applied as an obligatory standard in regulation, the deterministic standards will undermine the efficiency tests within the Access Framework.

# Discussion

## Value of Customer Reliability

### *Pros*

- VCR directly informs and delivers against the cost / reliability trade-off in the SEO.
- VCR is a single metric that can directly inform all activities that impact reliability outcomes that can be simply understood by customers
- With the support of specific tools, a probabilistic approach can be used to simply inform decisions amongst augmentation options with varying equipment outage rates, and number of customers effected.

### *Cons*

- A probabilistic approach does not provide a simple basis for scanning for upcoming network capacity shortfalls.
- Requires a level of analysis / effort that may not be warranted at lower cost augmentations.

# Discussion

## Outcome standards

### *Pros*

- Simple, transparent and measurable standards that directly reflect the customer reliability outcome being sought.
- Flexibility to meet regulatory efficiency requirements.
- If applied differentially, this typically drives augmentation responses for areas with small customer numbers at the end of significant network infrastructure that end up with low reliability outcomes under other standards.

### *Cons:*

- The outcome standards do not directly inform the decisions that need to be made to deliver the specified outcome. Western Power would still need to establish and use the other reliability mechanisms for internal use to reliably deliver the outcome standards.
- There is a significant delay between network design decisions and the reliability outcomes. Outcome standards are a lagging indicator of reliability of supply. Once the impact is being measured it can take years or decades to resolve.
- Outcome standards do not provide a basis for aligning design activities between Western Power, AEMO, and customers of the system.

# Options for the application of standards for Western Power

Option	Deterministic	Outcome based
Option 1		
Option 2		
Option 3		

**Option 1:** Define PSSR planning standards with reference to outcome standards only. To meet these standards Western Power will likely establish internal deterministic standards for design that will deliver the specified Outcomes standards. Western Power will have flexibility to invest consistent with the requirement of the ENAC. This option provides a simple and transparent single standard but loses the stakeholder interface benefits of a published deterministic standard.

**Option 2:** Define PSSR planning standards with reference to deterministic standards only. Deterministic standards will define the timing of investment in network augmentations. This will impact the consideration of investment timing to deliver economically efficient outcomes in many circumstances (as Western Power must invest to meet a prescribed standard)

**Option 3:** The deterministic standards are retained to inform when network augmentation must be considered (design must commence) but it is made clear that this standard does not create an obligation to invest that may bypass the Access Framework. The outcome standards become the minimum standard and have financial penalties determined by the ERA.

# Assessment of Options

Option	Criteria			Final Ranking
	Transparency	Cost of implementation	Efficiency of investment outcomes	
Option 1 - outcome based	2	3	1	2
Option 2 - deterministic	3	1	3	3
Option 3 - mix	1	2	2	1

- *Transparency*: how the reliability standard directly informs reliability outcomes, and the clarity with which the standard relates to the end user experience.
- *Cost of implementation*: relative ease (time and cost) of implementing the planning standard.
- *Efficiency of investment outcomes*: extent to which the planning criteria may lead to sub-economic investment.

# Analysis

There is always a trade-off between reliability and cost. Providing certainty in reliability outcomes during planning results in decrease in the ability to control cost outcomes. To prescribe an obligatory minimum level of reliability at the planning stage is to do it at any cost.

Is it acceptable to implement a deterministic PSSR planning standard to be delivered at any cost (Option 2)? Alternatively, where the standard is over-ridden by a process of determining economic efficiency (currently the requirements of the ENAC) it is no longer a standard that can be met and should therefore not be an obligation but a form of guidance.

The Outcome standards do not prescribe when investment is required. They can therefore be applied as an obligatory standard, with financial penalties, whilst providing full flexibility in the selection and timing of expenditure to maintain reliability. The scale of the financial penalties will indirectly inform the cost reliability trade-off by supporting the financial case for the required investment in reliability. However, the larger the penalties, the higher the regulatory risk, the better the justification for a higher WACC, the higher the cost of network services. Due to this interrelationship with cost, the financial penalties are best determined as part of the economic regulation process.

As lagging standard, once there is a fall in the reliability outcomes it can take years for the required investment to resolve. This outcome is mitigated by the presence of deterministic guidelines as a leading reliability metric.

**Based on the above discussion, it is recommended the outcome standards be implemented as obligatory standards in the rules with the financial penalties to be determined in the Access Framework Review and with the deterministic standards to provide guidance to the Western Power design process.**

# Proposed option - summary

It is proposed the PSSR standard for Western Power include both the Deterministic and Outcome Based standards in a manner that:

- The deterministic standards will be implemented in the rules and provide guidance to Western Power on the investments it should make, however Western Power will not be obliged to make such investments if it is not prudent and efficient to do so.
- Western Power will be able to apply probabilistic principles to determine whether an investment is prudent and efficient.
- Western Power will not have to apply to the regulator for an exemption from complying with the deterministic standards as it is currently obliged to do.
- The framing of the standards does not impede the existing process of Western Power using value of customer reliability to make prudence and efficiency assessments.
- The Outcome standards will be set in the rules and reviewed by government on a regular basis (3-5 yearly) with the associated penalties set as part of the economic regulation process.
- Any incentive standards or penalties will be a consideration for the regulator.



## Issue 9: When PSSR Standards should over-ride economic efficiency tests

# Discussion and proposed solution

The previous issue addresses the inter-relationship between Western Power's Reliability Standards and the economic efficiency tests of the Access Arrangement. These reliability planning standards are the most material interface between minimum standards used in developing design options and the selection and timing of implementation of the most efficient design option.

Following on from the previous discussion, the deterministic standards should not override economic efficiency, and put an obligation on Western Power to invest if not prudent or efficient to do so.

This issue is proposed to be resolved by an overarching statement with the following components:

- The PSSR standards define the technical standards that must be met by the design, investment in, or operation of the covered network.
- The PSSR standards do not impact the requirements under the ENAC or Access Framework to establish efficient options to meet the PSSR standards or to define the timing of new investments in an efficient manner.

**Issue 2:** There is not a coordinated approach to the assumptions and inputs used in forecasts required to apply the various PSSR standards.

# Discussion and proposed solution

## Discussion

**For the end-to-end PSSR standard to work effectively, consistent inputs into forecasting are essential.**

***EPWA's preference is that this is achieved through collaboration between parties responsible for forecasting, and some general rules can be included in the ESMR to guide parties towards that collaboration.***

The following key matters must be addressed:

- identifying the data required to enhance forecasting mechanisms;
- identifying and removing barriers to Information Sharing;
- expediting transition of information between the parties responsible for forecasting (facilitate data sharing); and
- identifying working arrangement where forecasting processes are conducted as consistently as practical