

Framework and approach for Western Power's fifth access arrangement review

Draft decision

11 June 2021

Economic Regulation Authority

WESTERN AUSTRALIA

D232957

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Invitation to make submissions

Submissions are due by 4:00 pm WST, Friday 9 July 2021.

The ERA is required to decide some elements of the access arrangement in advance of Western Power submitting its next access arrangement proposal. The ERA must set out its decision on these matters in a document called the “framework and approach”.

The ERA invites comment on this draft decision and encourages all interested parties to provide comment on the matters discussed in this paper and any other issues or concerns not already raised in this paper.

We would prefer to receive your comments via our online submission form <https://www.erawa.com.au/consultation>

You can also send comments through:

Email: publicsubmissions@erawa.com.au

Post: Level 4, 469 Wellington St, Perth WA 6000

Please note that submissions provided electronically do not need to be provided separately in hard copy.

All submissions will be made available on our website unless arrangements are made in advance between the author and the ERA. This is because it is preferable that all submissions be publicly available to facilitate an informed and transparent consultative process. Parties wishing to submit confidential information are requested to contact us at info@erawa.com.au.

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1. Summary

1.1 Background

Western Power's transmission and distribution network is a covered network under the *Electricity Networks Access Code 2004*. Western Power is required to have an approved access arrangement that sets out the terms and conditions, including prices, for third parties seeking access to the network.

Western Power's access arrangement was first approved by the ERA in April 2007 to cover the access arrangement period from 2006/07 to 2008/09 (AA1). There have been three subsequent revisions to the access arrangement approved, most recently for the period 2017/18 to 2021/22 (AA4). The current access arrangement will continue to apply until the ERA approves proposed revisions for the fifth access arrangement period from 2022/23 to 2026/27 (AA5).

On 18 September 2020, the *Electricity Networks Access Code 2004* was amended to support the delivery of the State Government's Energy Transformation Strategy.¹ As a result of the amendments, the process and some of the regulatory requirements for the AA5 review have changed.

In the past, the access arrangement review commenced with Western Power submitting an access arrangement proposal. The ERA was then required to consider the entire access arrangement and determine whether it met the Access Code objective and the specific requirements for an access arrangement.

The new process is a two-stage decision-making process. In the first stage, the ERA must decide some elements of the access arrangement before Western Power submits its access arrangement proposal. The ERA must set out its decision on these matters in a document called the "framework and approach".

The second stage of the access arrangement review is Western Power submitting its access arrangement proposal to the ERA for approval. Western Power's access arrangement proposal (which it is required to submit to the ERA by 1 February 2022) must be consistent with the elements that the ERA has already determined in the framework and approach.² The ERA will then consider the elements of the access arrangement that were not determined in the framework and approach.

On 1 April 2021, the ERA published an issues paper on the framework and approach. Submissions were received from:

- Australian Energy Council
- Australian Energy Market Operator
- Energy Networks Australia
- Energy Policy WA

¹ On 6 March 2019, the Minister for Energy announced the Energy Transformation Strategy, which is the State Government's plan to respond to the technological change and evolving consumer preferences that are rapidly transforming the energy sector and to plan for the future of the power system. The delivery of the Strategy is being overseen by the Energy Transformation Taskforce, which is supported by the Energy Transformation Implementation Unit, a dedicated unit within Energy Policy WA.

² Unless there has been a material change in circumstances in which case Western Power must provide reasons for the departure.

- Noel Schubert
- Perth Energy
- Synergy
- Western Power.

The ERA also engaged Economic Insights to review the issues paper and provide advice on any perceived gaps or improvements in the identification of relevant issues and their treatment for the access arrangement. A copy of the report is available on the ERA website. The report has been considered in the preparation of this draft decision.

1.2 Draft decision

As required under section 4.A2 of the Access Code the ERA has made a draft decision on the following matters:

- Classification of services
- Reference services
- Method for setting service standard benchmarks
- Form of price control
- Investment adjustment mechanism
- Gain sharing mechanism
- Service standards adjustment mechanism
- Demand management innovation allowance mechanism.

The decision on each matter is set out in the remainder of this document.

Consistent with section 4.A7 of the Access Code, the ERA invites submissions on its draft decision for a period of 20 business days. Submissions are due by 4.00 pm (WST) Friday, 9 July 2021. The ERA will consider any submissions received before publishing a final decision.

2. Regulatory requirements

Section 4.A2 of the Access Code specifies that the framework and approach must set out the ERA's decision (including its reasons) for the purposes of the next access arrangement review on the following matters:

- The investment adjustment mechanism.
- The gain sharing mechanism.
- The service standard adjustment mechanism.
- The demand management innovation allowance mechanism.
- The form of price control, having regard to the price control objectives set out in section 6.4 of the Access Code.
- A list of and classification of services, including whether services are reference services or non-reference services. This list may include the eligibility criteria for each reference service, the structure and charging parameters for each distribution reference tariff and a description of the approach to setting each distribution reference tariff.³
- The method for setting the service standard benchmarks for each reference service.

Section 4.A13 of the Access Code allows the ERA to include matters in the framework and approach that are not listed in section 4.A2.

Section 4.A1 requires the framework and approach to be consistent with the Access Code objective.

The framework and approach is not binding. However, the Access Code requires:

- 4.A11 Any proposed access arrangement or proposed revisions submitted by a service provider to the Authority must be consistent with the framework and approach that applies to it. The service provider may propose departures from the framework and approach if there has been a material change in circumstances in which case it must provide reasons for the departure.
- 4.A12 The Authority must not approve a proposed access arrangement or proposed revisions that departs from the framework and approach unless there has been a material change in circumstances, in which case it must provide reasons for the departure.

If Western Power proposes to depart from the framework and approach it will need to include a case to support the departure in its access arrangement proposal, including evidence that there has been a material change in circumstances and that the departure is necessary.

The ERA will consult stakeholders on any departure from the framework and approach in the issues paper on Western Power's proposed access arrangement.

If the ERA proposes to depart from the framework and approach, it will set out its reasons and consult with stakeholders on the departure prior to making its determination.

³ For future access arrangement reviews, the framework and approach must include the eligibility criteria for each reference service, the structure and charging parameters for each distribution reference tariff and a description of the approach to setting each distribution reference tariff.

2.1 Access Code objective

The Access Code objective is set out in section 2.1:

- 2.1 ...to promote the efficient investment in, and efficient operation and use of, *services of networks* in Western Australia for the long term interests of *consumers* in relation to:
- (a) price, quality, safety, reliability and security of supply of electricity;
 - (b) the safety, reliability and security of *covered networks*; and
 - (c) the environmental consequences of energy supply and consumption, including reducing greenhouse gas emissions, considering land use and biodiversity impacts and encouraging energy efficiency and demand management.
- {Note: *Consumers* in the context of the *Code objective* has the meaning in this Code being “a person who consumes electricity”}

The ERA must determine whether Western Power’s access arrangement is consistent with the Access Code objective and the detailed requirements set out in chapter 5 of the Access Code. The framework and approach must be consistent with the Access Code objective.

The ERA considers that the Access Code objective must be read as a whole. There are three limbs which must be considered by the ERA. The ERA is of the view that these limbs may be balanced or weighed, but all must be considered.

The Code sets out rules for when the Access Code objective may conflict with specific criteria and which prevails to the extent of the inconsistency:

- 2.3 Where this Code specifies one or more *specific criteria* in relation to a thing (including the making of any decision or the doing, or not doing, of any act), then:
- (a) subject to section 2.3(b), the specific criteria and the Code objective all apply in relation to the thing; and
 - (b) subject to section 2.4, to the extent that a specific criterion and the Code objective conflict in relation to the thing, then:
 - (i) the specific criterion prevails over the Code objective in relation to the thing; and
 - (ii) to the extent that the *specific criterion* conflicts with one or more other *specific criteria* in relation to the thing, the *Code objective* applies in determining how the *specific criteria* can best be reconciled and which of them should prevail.
- 2.4 If the *Code objective* is specified in a provision of this Code as a *specific criterion*, then the *Code objective* is to be treated as being also a *specific criterion* for the purposes of section 2.3, but to the extent that the *Code objective* conflicts with one or more other *specific criteria* the *Code objective* prevails.

While sections 2.3 and 2.4 provide guidance on inconsistencies and conflicts, complex interactions may arise when determining whether there is an inconsistency and which factor should prevail in each circumstance. Sections 2.3 to 2.4 also may not deal with situations where there is a conflict between the three limbs of the Access Code objective.

In the issues paper, the ERA sought views on how the ERA should assess whether a matter is consistent with the Access Code objective. The ERA suggested the following questions

may assist the ERA, Western Power and stakeholders in systematically considering each matter and whether it is consistent with the Access Code objective:

- What is the matter being considered? (for example, form of price control or list of reference services).
- How does the matter “relate to” or connect to price, quality, safety, reliability, and security of supply?
- How does the matter “relate to” the safety, reliability, and security of covered networks?
- How does the matter “relate to” “environmental consequences of energy supply and consumption”?
- In relation to the environmental consequences specifically identified:
 - What effect does the matter have on greenhouse gas emissions?
 - What effect does the matter have on land use and biodiversity?
 - What effect does the matter have on encouraging energy efficiency and demand management?
- If some or all of the limbs are not relevant to the matter, is it still consistent with the overarching Access Code objective?
- Is there a conflict between different requirements? What is the extent of the inconsistency? Which prevails?

The ERA sought stakeholder feedback on the ERA’s proposed approach to determining consistency with the Access Code objective, including but not limited to:

- What information or data might be available to assist the ERA in considering each of the limbs, particularly the environmental consideration, in determining consistency with the Access Code objective. For example, information on greenhouse gas emissions.
- Where stakeholders foresee conflicts arising between elements of the new Code objective. For example, a line route chosen based on biodiversity considerations might result in higher prices for customers.
- Where stakeholders foresee conflicts arising between the Code objective and particular criteria or criterion in the Access Code. For example, the new facilities investment test may produce a result that is inconsistent with the environmental limb of the Access Code objective.
- Whether there are particular matters within the framework and approach and access arrangement which are not well suited to consideration of environmental consequences, or where environmental consequences may not be relevant. For example, biodiversity considerations may not be relevant when determining the list of reference services.
- Do the questions above provide an analytical framework for assessing consistency with the new Code objective? Are there additional questions the ERA should ask?

In its submission on the issues paper, Western Power considered it is well equipped to accommodate the Access Code objective and will ensure that its access arrangement submission will set out how it has applied its existing Investment Governance Framework to demonstrate the consistency of forecast investments with the Code objective:

Western Power is well equipped to accommodate the new Code objective as we have always had a strong focus on environmental impacts and are committed to listening to and considering our community's expectations.

Western Power is required to comply with environmental obligations including obligations under the National Greenhouse and Energy Reporting Act 2007, National Greenhouse and Energy Reporting Regulations 2008 and the National Greenhouse and Energy Reporting (Measurement) Determination 2008.

The National Pollutant Inventory (NPI) focuses on 93 substances emitted to the local environment. Whilst being a national program, the NPI is implemented at the state level through the Environmental Protection (NEPM-NPI) Regulations 1998 (WA) and regulated by the Department of Water and Environmental Regulation.

Western Power reports greenhouse gas emissions (scope 1 and scope 2) for its network and its associated support activities along with energy production and consumption data to the Clean Energy Regulator.

Western Power acknowledges the environmental consequences of energy supply and consumption and the associated challenges of decarbonising the environment and economy. Western Power supports enablement of the State Governments Climate Policy that commits to achieving net zero emissions by 2050 and our governance framework therefore provides a foundation through which environmental impacts can be considered. Western Power's existing investment governance and risk management framework can accommodate the revised objective.

Each investment Western Power undertakes, regardless of the solution implemented, has its own requirements. Western Power's Enterprise Risk Management Framework, which interacts closely with our Investment Governance Framework, therefore includes assessment criteria for safety, environmental, compliance, customer (reliability) and financial impacts to ensure investment, operation and use of the network is balanced according to the long term interest of consumers.

Accordingly, Western Power considers that the three limbs of the Code objective are already substantially considered in key decision-making within Western Power. Further thought will need to be given to the express elements of the environmental limb but Western Power does not consider substantial changes are necessary.

...

Western Power's fifth access arrangement submission will clearly articulate how we apply our existing Investment Governance Framework to demonstrate the consistency of forecast investments with the Code objective.

Perth Energy was concerned about environmental considerations leading to perverse outcomes in Western Power processes or decisions.

Western Power may interpret this objective as requiring them to show bias in favour of certain services, or connection requests, at the expense of other requests.

In respect to environmental objectives, there are already legislative instruments in place that set obligations on Western Power. Western Power is not an environmental expert, and the potential impact of Western Power imposing environmental effects on services could be onerous and unnecessarily expensive. Western Power should provide a cost-benefit analysis for any proposals to go beyond these legal obligations.

Encouragement of energy efficiency and demand management could certainly be given through the design of tariffs and support of market schemes (including behind the meter services). However, the emphasis should always be on the whole delivery system from generation to customer. For example, consideration of the third (environmental) limb of the Code may be seen as justifying the use of energy storage systems to encourage renewable energy. However, the round-trip losses incurred within the storage systems will increase overall electricity production which, in turn, may result in increased line losses. A full cost analysis should always be undertaken.

The Australian Energy Council was concerned about conflicts that may occur between the Access Code objectives and criteria in the Access Code where:

- the network operator proposes to provide services in competition with third parties

- the network operator proposes an investment that a third party could provide at least cost.

Synergy expressed similar concerns to Perth Energy and the Australian Energy Council. However, it considered the different limbs of the objective should not operate in conflict with each other provided the ERA exercises its discretion to apply different weightings to each of the three limbs when considering a particular proposal and does so in a transparent manner.

The ERA notes the concerns raised by Perth Energy that Western Power may interpret the Access Code objective as requiring it to show bias in favour of certain services, or connection requests, at the expense of other requests.

Western Power is still subject to the requirements under section 2.7 of the Access Code to use all reasonable endeavours to accommodate an applicant's requirements to obtain covered services and is subject to an appeals mechanism.

Perth Energy was also concerned that Western Power may seek to achieve higher environmental standards than are currently required. Western Power's expenditure proposal will continue to be subject to the new facilities investment test. Western Power would need to demonstrate that expenditure to achieve a higher environmental standard is consistent with the new facilities investment test.

The concerns raised about conflicts arising where the network operator proposes an investment that a third party could provide at least cost can at least partially be dealt with under the efficiency element of the new facilities investment test. Western Power must always be able to demonstrate that it has adopted efficient procurement processes. This would include choosing a third-party supplier if that is cheaper than in-house supply. The ERA can reduce cost proposals to remove any such inefficiencies.

The new requirements in chapter 6A of the Access Code are intended to increase the information about and opportunities for third parties to provide alternative options. The ERA is proposing that batteries will be treated as an excluded service and that the access arrangement must include reference services for network connected batteries. These changes will help to remove regulatory barriers that may currently be affecting the ability of third-party suppliers to provide lower cost options.

Western Power has indicated its proposal will demonstrate the consistency of forecast investments with the Access Code objective. Western Power does not consider that the changes to the Access Code objective will result in significant differences in its expenditure proposal compared to previous proposals. The ERA will assess Western Power's proposed expenditure against the requirements of the new facilities investment test and the Access Code objectives. If there is a conflict between these requirements, the specific provisions of the new facilities investment test will prevail as specified under section 2.3 of the Access Code.

3. Classification of services

The framework and approach must include a list of, and classification of, services.

In the Access Code, “services” are defined as the conveyance of electricity and other services provided by means of network infrastructure facilities and services ancillary to such services.

The access arrangement applies to covered services. A “covered service” (or regulated service) is defined as a service provided by means of a covered network including:⁴

- A connection service, which means the right to connect facilities and equipment at a connection point. This refers to the physical connection, not the right to transfer electricity.
- An entry or exit service. An entry service is a service provided at an entry point under which the user may transfer electricity into the network at the entry point. An exit service is a service provided at an exit point under which the user may transfer electricity out of the network at the exit point.
- A network use of system service.
- A common service, which means a covered service that is ancillary to the provision of one or more of entry services, exit services and network use of system services that ensures the reliability of a network or otherwise provides benefits to users of the network, the costs of which cannot be reasonably allocated to one or more particular users and so needs to be allocated across all users.
- A service ancillary to any of the above services.

Under section 2.7 of the Access Code, Western Power must use all reasonable endeavours to accommodate an applicant’s requirements to obtain covered services. Covered services can be provided as reference or non-reference services:

- Reference services are standard services specified in the access arrangement with a published tariff, standard access contract and service standards. The access arrangement must specify a reference service for each covered service that is likely to be sought by a significant number of network services customers or a substantial proportion of the network services market.⁵
- Non-reference services are negotiated services. As set out in section 2.4A of the Access Code, the Access Code’s central emphasis is on negotiated outcomes. Western Power and existing customers or new applicants may negotiate an access contract for access to any service (including a service which differs from a reference service) on any terms (including terms which differ from a standard access contract).

The Access Code provides for a covered service to be made an “excluded service” if it meets the following criteria:

- The supply of that service is subject to effective competition.

⁴ In Western Power’s case, the covered network is the portions of the South West interconnected system which are owned by Western Power. Under section 3.34A of the Access Code, a stand-alone power system provided by a service provider is treated as part of the covered network to which it is an adjunct if it replaces part of the covered network or is required to be provided by the service provider pursuant to a written law or statutory instrument.

⁵ The Access Code defines “customer” as a “user” or “end-use customer” in the end-use customer’s capacity as an indirect customer for covered services. “User” is the person who is party to a contract for services with the service provider. “End-use customer” means a consumer (a person who consumes electricity) who obtains the benefit of covered services through a user.

- The cost of the service can be excluded from consideration for price control purposes without departing from the Code objective.

Excluded services are not regulated.

Western Power's services are currently classified as follows:

- Covered services.
 - Revenue target services.
 - Reference and non-reference connection, exit and entry services.
 - Reference and non-reference bi-directional services.
 - Reference metering services.
 - Streetlight services.⁶
 - Non-revenue target services.
 - Reference and non-reference ancillary services for supply abolishment, capacity allocation swaps, direct load control/limitation, remote de-energisation/re-energisation, and streetlight LED replacements.
 - Services under the model service level agreement.⁷
 - Access applications under the applications and queuing policy.
 - Temporary supply and disconnections, high load escorts and permits, works in vicinity, line relocations.
- Services that are not covered:
 - External fleet maintenance, private vegetation management, power training services, underground cable connection work from the pillar in the street to the adjacent property.

Western Power does not currently have any excluded services.

Covered services have been classified as either "revenue target services" or "non-revenue target services":

- Revenue target services are included in target revenue calculated under the price control.
- Non-revenue target services are not included in target revenue and have fixed fees or are priced on application for each service request.
 - Prices for supply abolishment, capacity allocation swaps, direct load control/limitation, remote de-energisation/re-energisation, and streetlight LED replacements are included in the annual price list.
 - Prices for services under the model service level agreement are included in the model service level agreement.
 - Prices for applications are included in the applications and queuing policy.

⁶ Applies to streetlights owned by Western Power and includes maintenance of the streetlight. Streetlights owned and maintained by users require an exit service only.

⁷ These include meter reconfigurations, exchanges and communication installations requested by users; non-scheduled special meter readings requested by users; meter investigations and testing required by users; manual de-energisation and re-energisation.

- Other charges must be consistent with the approved contributions policy (if relevant) or otherwise must be negotiated in good faith, consistent with the Code objective and reasonable.⁸

The classification of services requires review in light of the introduction of stand-alone power systems and batteries.

In addition, the Energy Transformation changes to the Access Code include a new category of asset – a “multi-function asset” - which is defined as a network asset used to provide services other than covered services.

The ERA considers there is a case for classifying services provided by batteries as an excluded service. The ERA considers that no existing services meet the requirement for an excluded service.

3.1 Stand-alone power systems

Changes were made to the *Electricity Industry Act 2004* in April 2020 that allow Western Power to install a stand-alone power system and treat it as part of the covered network to which it is an adjunct if it replaces part of the covered network or is required to be provided by the service provider pursuant to a written law or statutory instrument.

The NEM has taken a different approach. Stand-alone power systems are not treated as part of the distribution network. The AEMC has developed a framework that splits stand-alone power systems into two components: a distribution system and a generation system. The distribution component is treated like any other part of the distribution system. The AER’s ringfencing guidelines generally restrict distribution service providers from offering non-distribution services.⁹ Consequently, the generation component must be provided by a third party or a service provider affiliate unless a distribution service provider is able to obtain a ring-fencing waiver. The AER is currently consulting on the ringfencing arrangements for stand-alone power systems.

The legislative changes in Western Australia allow Western Power to install and operate a stand-alone power system in its entirety. However, the costs of stand-alone power systems can be added to Western Power’s regulated asset base and recovered from all network users only if they meet the requirements of the new facilities investment test.

The ERA understands that Western Power is installing stand-alone power systems in parts of the network where it is cheaper than maintaining the existing network. Stand-alone power systems have also been deployed where the network has been damaged due to bushfires or storms and it is cheaper than rebuilding the network.

The end-use customers supplied by stand-alone power systems continue to pay the same charge as though still on the network and all network users benefit from the savings that arise. The ERA will be assessing stand-alone power expenditure during the access arrangement review to ensure that it meets the requirements of the new facilities investment test.

As stand-alone power systems are only deployed based on operational requirements determined by Western Power, the stand-alone power system is an input, rather than a

⁸ As required by section 5.1.2(b) of Western Power’s approved access arrangement.

⁹ A distribution service is defined as a service that is provided by means of, or in connection with, a distribution system.

service. As set out in the issues paper, the ERA considers stand-alone power systems should be captured under the existing reference services and included in the target revenue category.

Submissions from Perth Energy and Energy Networks Australia noted the benefits stand-alone power systems can bring in terms of cost reductions for all customers. Energy Networks Australia also pointed to the additional resilience stand-alone power systems can provide.

Following emergency situations, such as Western Australia's recent cyclone and bushfire events, SPS can be an effective part of a DNSPs disaster recovery response, depending on the extent of network damage and customer density.

SPS can also pre-emptively improve resilience against the loss of electricity supply in emergency situations when installed prior to natural hazard events, such as bushfires and major storms. Grid-connected customers are susceptible to outages caused by environmental damage to poles and wires, whereas SPS customers are not. ENA's *Opportunities for stand-alone power systems to enhance network resilience* report found that the business case for deploying SPS is enhanced after accounting for the benefits of resilience.¹⁰

Western Power agreed with the ERA's proposed approach. However, it noted that further consideration of this treatment may be required in future access arrangements as stand-alone power systems reach significant scale in the network.

Synergy also supported the ERA's proposed approach but considered that the current regulatory framework entitles users to seek covered services provided by means of a stand-alone power system.

The ERA does not consider this to be the case. As outlined above, Western Power can install stand-alone power systems where it is cheaper compared with maintaining the existing covered network. This prevents Western Power from expanding into potentially competitive markets while benefitting all network users through lower prices.

If Western Power was able to offer stand-alone power systems as a specific service, measures would be necessary to ensure it was not subsidised by the regulated business and did not adversely affect competition.

On the basis that Western Power can only install stand-alone power systems where it is a cheaper option than an existing network connection, the ERA maintains its position that stand-alone power systems should be captured under the existing exit and bi-directional reference services. Users will be able to access metering and any other services required in the same way they currently do for exit and bi-directional services.

3.2 Network-connected batteries

Batteries installed by Western Power can provide an alternative to conventional network investments such as new feeders, voltage regulators or capacitor banks to support exit, entry and bi-directional services.

In its submission on the issues paper, Energy Networks Australia highlighted the benefits batteries can provide for network services and that the viability of these services can be increased by allowing other services to be offered:

¹⁰ Energy Networks Australia, [Opportunities for stand-alone power systems to enhance network resilience](#) (October 2020), p. vii.

Network connected batteries are primarily installed for the purposes of providing network services but DNSPs can increase the viability of these services by, for example, leasing out spare capacity or offering customers access to a shared storage service. This is commonly referred to as value stacking and allows the same storage device to be used for multiple purposes.

...

Enabling value-stacking also reduces the cost to all consumers of DNSPs providing network services and would foster the energy storage market and provide incentives for third parties to enter.

However, stakeholders have raised concerns about Western Power owning batteries. Perth Energy, the Australian Energy Council and Alinta all raise concerns about conflicts that will arise if Western Power batteries are used to provide unregulated services and the adverse effect this will have on competition and costs to consumers.

Storage services are not explicitly included in the definition of covered services in the Access Code but would be included under common or ancillary services if they are used to provide network support services. Otherwise, storage services provided by batteries owned by Western Power would most likely be considered non-covered services and fall outside the provisions of the access arrangement.

As batteries can provide different services simultaneously or switch the service they provide very quickly, there may be no obvious or straightforward method to allocate the capital cost of the battery between covered and non-covered services.

The ringfencing objectives in the Access Code also do not consider storage services. There are specific provisions prohibiting network service providers from generating, purchasing or selling electricity.¹¹ However, there are no ringfencing requirements for any other activities apart from a requirement that the service provider must keep separate accounts and records for the covered network. This would apply only if the battery was not part of the covered network. As noted above, allocating capital costs between covered and non-covered services could be difficult.

As set out in the issues paper, to ensure a level playing field for third parties to connect batteries to the network, the ERA proposed that services provided by batteries owned by Western Power could be classified as excluded services. A covered service can be made an “excluded service” if it is subject to effective competition and the cost can be excluded from the price control.

Under this approach, the total capital cost of a battery owned by Western Power would be excluded from the regulated asset base regardless of what type of services it provided. Any network support service provided to the regulated business could be charged to the regulated business on an arms-length basis.

In its submission on the issues paper, the Australian Energy Council and Alinta supported the idea.

Western Power was supportive of further developing the concept of an excluded service.

¹¹ Except to the extent necessary:

- For the safe and reliable operation of a covered network.
- To enable a service provider to provide balancing and ancillary services in connection with a covered network.
- To comply with an obligation under Part 9 of the Electricity Industry Act 2004 (the Wholesale Electricity Market).

The Australian Energy Market Operator considered it is important that the classification of services allows their full capabilities to be realised while addressing concerns about competition.

The regulatory framework should support the efficient utilisation of device capabilities for the benefit of all consumers, including the capabilities of multi-function assets, network-connected batteries and other new technologies. AEMO considers it important that the classification of services from these assets should allow their full capabilities to be realised, while addressing concerns around competition and conflict of interest.

Energy Networks Australia expressed some concerns about the costs of additional regulation and potential delays to implementation.

When considering whether network connected batteries should be considered an “excluded service”, the costs of additional regulation, including potential delays to implementation thereby partially eroding customer benefits, should be balanced with possible benefits to customers. ENA is strongly supportive of a flexible regulatory framework that accommodates energy storage devices, including value-stacking, when it is in the long-term interests of consumers.

The ERA considers classifying services provided by batteries as an excluded service would address most, if not all, of the issues raised by stakeholders. This includes making it easier for the “value-stacking” referred to by Energy Networks Australia to occur as subsidies between the regulated and non-regulated business would no longer be a concern if Western Power owns the battery. It is more straightforward than ring-fencing the non-covered component of a battery owned by Western Power, which in any case does not seem to be an option under the Access Code.

The ERA intends to commence consultation on a determination that a covered service is an excluded service under section 6.33 of the Access Code. The determination must be made by 31 October 2021 to have effect for the AA5 review.

3.3 Multi-function assets

The Energy Transformation changes to the Access Code include a new category of asset – a “multi-function asset” - which is defined as a network asset used to provide services other than covered services.

The Access Code defines “network assets” as the apparatus, equipment, plant and buildings used to provide or in connection with providing covered services on the network.

The Energy Transformation amendments for multi-function assets were intended to ensure that Western Power does not recover more than the cost of the asset (through regulated and unregulated revenue) and to encourage Western Power to use assets that provide covered services for the provision of other kinds of services where that use is efficient and does not materially prejudice the provision of covered services. The Code amendments require target revenue to be reduced by 30 per cent of the net incremental revenue earned by multi-function assets.

The ERA is currently developing guidelines on the approach it proposes to take to apply the multi-function asset principles set out in section 6.86 of the Access Code.

For the purposes of service classification, the relevant matter is that a new classification is required for non-covered services provided by multi-function assets.

In its submission on the issues paper, Western Power put forward an idea on how the new service classification could be implemented in the access arrangement.

One such interpretation could mean that a new category of services is included in the 'overview of price control' section of the Access Arrangement (currently 5.1 of AA4) that sets out a definition of multi-function asset services, and a reference to the multi-function asset policy. Corresponding changes may also be required to Western Power's Cost and Revenue Allocation Method to recognise the new category of service, noting that the revenue is not from providing covered services so the interactions with the Access Arrangement are limited.

A price control will not apply to multi-function asset non-covered services as they are not covered services. The multi-function asset provisions in the Access Code require the access arrangement to include a multi-function asset policy. The ERA considers the multi-function asset policy is the best instrument to ensure that revenue from multi-function assets is correctly allocated between covered and non-covered services.

The specific information requirements for the multi-function asset policy will be considered as part of the multi-function asset guidelines.

Although non-covered services fall outside the scope of the access arrangement, to ensure that services have not been misclassified, Western Power will be required to provide details of any other non-covered services provided.

Draft decision – Classification of services

Western Power's services must be classified as follows:

- Covered services:
 - Covered services that are included in the price control target revenue:
 - Reference and non-reference connection, exit, entry, bi-directional, reference metering and streetlight maintenance services.
 - Covered services that are not included in the price control target revenue and have fixed fees or are priced on application:
 - Reference and non-reference ancillary services (supply abolishment, capacity allocation swaps, direct load control/limitation, de-energisation/re-energisation, streetlight LED replacements). Prices will be approved in the annual price list.
 - Services under the model service level agreement. Prices will be approved in the model service level agreement.
 - Access applications under the applications and queuing policy. Prices will be approved in the applications and queuing policy.
 - Temporary supply and disconnections, high load escorts and permits, works in vicinity, line relocations. Prices must be consistent with the contributions policy, if relevant, or negotiated in good faith, consistent with the Code objective and reasonable.
- Services that are not covered:
 - Any services that are not covered services and utilise covered assets. Western Power will be required to provide details of any such services, including why the service does not fall within the definition of covered service.
 - Any services that are not covered services and do not utilise covered assets.
- Excluded services:
 - Services provided by batteries (subject to determination under section 6.33 of the Access Code).

4. Reference services

The framework and approach must include a list of reference services. It may also include the eligibility criteria for each reference service, the structure and charging parameters for each distribution reference tariff and a description of the approach to setting each distribution reference tariff.

Section 5.2(b) of the Access Code requires the access arrangement to specify a reference service for each covered service that is likely to be sought by a significant number of users or end-use customers (including new applicants) or a substantial proportion of the network services market.

The Access Code also provides for covered services to be provided as non-reference services negotiated with users.

For this first framework and approach, the ERA can choose to include eligibility criteria, structure and charging parameters and a description of the approach to setting each tariff. However, this is optional. The inclusion of these elements is will be mandatory for future reviews.

Determining the list of reference services in the framework and approach, including any aspects required to develop system and process changes, will ensure there is sufficient time to properly consult on the reference services required by users and that Western Power and users are ready for any new or revised reference services from the date that the revised access arrangement commences.

In the issues paper, the ERA proposed this would include determining the eligibility criteria and the structure and charging parameters for each reference service in the framework and approach.

The development of tariffs will be undertaken during the access arrangement review. The Energy Transformation amendments to the Access Code include significant new requirements for the development of tariffs to ensure that tariffs reflect the efficient costs of providing the service.

To determine the list of reference services, the ERA considers section 5.2(b) of the Access Code should be viewed as a minimum requirement. Reference services have an important role to play in encouraging efficient operation and use of the network. They can also affect the environmental consequences of energy supply (particularly for a user or end-use customer with distributed generation) and the encouragement of energy efficiency and demand management.

Well-specified and properly targeted reference services will create a level playing field for all users to contribute to and realise the benefit from these objectives, rather than relying on negotiating non-reference services.

In the National Electricity Market (NEM), most network services are specified. The Australian Energy Regulator (AER) makes a negotiated service classification only where it considers that all relevant parties have a reasonable degree of countervailing market power to effectively negotiate the provision of those services. The AER's guideline on service classification notes that, in practice, this condition rarely occurs.¹²

¹² Australian Energy Regulator, Final Guideline Electricity Distribution Service Classification Guideline, September 2018, p. 12.

The ERA considers that the current list of reference services should be retained with some modifications, particularly improving the time of use services. It also considers new reference services are needed for transmission connected batteries, distribution connected batteries and electric vehicle charging stations.

Feedback on the issues paper has shown it is not possible to finalise eligibility requirements and charging parameters in the framework and approach. As set out above, eligibility requirements and charging parameters are optional for this first framework approach. The ERA has set out requirements or guidance on eligibility requirements and charging parameters where it is able to do so. Approval of the eligibility requirements and charging parameters will form part of the access arrangement review.

4.1 Constrained access

Consistent with the new Wholesale Electricity Market design, the Access Code has been amended to require entry services to allow interruption or curtailment in either of the following circumstances:

- where constraints are created by other users of the network
- in connection with the operation of security constrained economic dispatch.

In the issues paper it was proposed the entry reference services and capacity allocation swap services be amended to reflect this requirement.

Synergy and Western Power broadly agreed with the ERA's view.

Western Power noted that reference services for capacity allocation services should be amended to exclude eligibility for generators due to the introduction of constrained access. The ERA agrees with this view.

Synergy recognised the need for change but noted that the amendments made to entry reference services must not affect any electricity transfer access contracts entered into with the network operator prior to 18 September 2020 consistent with ENAC clause 2.4C. The ERA notes that revisions to the access arrangement do not affect existing contracts between Western Power and users.

4.2 Exit and bi-directional services

Most of the residential and commercial reference services include an exit and bi-directional version of the service. Combining the exit and bi-directional service would reduce the number of services. However, the service provided to an end-use customer who both imports energy from and exports energy to the network is quite different from an end-use customer who only imports energy from the network.

In its submission on the issues paper, Western Power agreed that exit and bi-directional services should continue to be offered as separate reference services.

Synergy suggested a bi-directional service is a sub-category of an exit service and that combining the categories would reduce the administrative burden of re-nominating customers who have purchased a DER system onto the equivalent bi-directional service.

Given this and the similarity of certain exit services to their bi-directional counterpart Synergy's view is that combining these categories of services would reduce the number of services and the administrative burden of re-nominating customers who have purchased a DER system onto the equivalent bi-directional service.

However, Synergy acknowledges there are circumstances where exporting energy to the network places different demands on the network compared with importing energy from the network. In particular, the differences can be material at different times in the day. The load profile for a customer that can supply some of its own energy will differ from a customer who draws all its energy from the network.

Therefore, Synergy supports the ERA's position that reference services should be tailored to the service that is provided and the demand it places on the network during different time-of-use periods.

A bi-directional service is a combination of an exit service and entry service.

The ERA considers that continuing to offer separate exit and bi-directional services is necessary to match the reference service to the service that is provided. It is also consistent with the requirement under section 5.2(c) of the Access Code that requires reference services to be specified so that a user is able to acquire by way of one or more reference services, only those elements of a covered service that a user wishes to acquire.

The current bi-directional services are priced the same as exit services and have the same service standard benchmarks.

The AEMC is currently developing rule changes to facilitate the integration of distributed energy resources such as small scale solar and batteries into the electricity grid including:

- Updating the regulatory framework to clarify that distribution services are two-way and include export services from consumers.
- Promoting incentives to efficiently invest in, operate and use export services. This will encourage distribution networks to deliver export services that customers value. Currently there are no financial penalties for poor network export service and no rewards for improvements.
- Enabling distribution networks to offer two-way pricing for export services, allowing them to develop options that reward owners of distributed energy resources for sending power to the grid when it is needed and charging them for sending power when it is not.
- Allowing flexible pricing at the network level, enabling distribution networks to develop pricing options to suit their capability, customer preferences and jurisdictional policies.

The ERA expects that Western Power will consider these matters when developing its tariff structure statement and other elements of its access arrangement proposal. Western Power will need to demonstrate that its proposed tariffs are cost reflective with evidence to support its proposal.

Care needs to be taken before expanding the eligibility requirements for existing bi-directional services to include connections with new technologies, in particular batteries and electric vehicles. The service requirements for a battery directly connected to the network or a dedicated electric vehicle charging point may differ from those of a household with a photovoltaic system, battery and electric vehicle behind the meter. Specifying appropriate reference services is an important component of providing incentives to users that enable efficient operation and use of the network.

In its submission on the issues paper, Western Power agreed in principle with the ERA's view.

1. Western Power agrees care needs to be taken before expanding the existing bi-directional services to include connections with new technologies, in particular storage and electric vehicles. Western Power considers new technologies can be accommodated via a structured approach which either expands the eligibility criteria of a relevant existing reference service or introduces new tailored reference services.
2. Appropriately structured tariffs combined with new opportunities for customers, to provide services to Western Power, can achieve some of the same outcomes that might otherwise be addressed through the specification of new reference services.

The ERA agrees that more cost-reflective pricing structures for the current residential and business bi-directional services will enable the existing bi-directional services to be extended to include residential and business end-use customers with batteries and electric vehicles.

However, even with more cost-reflective pricing, the ERA considers the existing residential and business bi-directional services are not appropriate for grid connected batteries (transmission or distribution) or dedicated electric vehicle charging stations. As is discussed further below, the ERA considers these services require new reference services.

4.3 Time of use periods

Tariffs based on time of use periods are becoming increasingly important as demand patterns across the day change. In the past, peak periods were the main driver of network costs. More recently, low demand periods have become a driver of network costs.¹³ The current time of use periods require review to ensure they properly reflect forecast demand patterns for AA5.

Synergy and Western Power both agreed that the current time of use periods require review.

Western Power submitted:

Western Power supports the review of the current time of use periods to ensure they properly reflect forecast demand patterns for AA5. The scope of this review should include consideration of the most appropriate time bands and potential grandfathering of existing time bands that are inconsistent with the demand patterns forecast for AA5.

The objective of setting appropriate time of use periods should be to deliver more consistent usage of the network throughout the day in order to avoid significant peaks and lows and ultimately reduce the requirement for network augmentation to address those peaks or lows. Western Power is currently observing system peaks in the late afternoon and early evening period, with lows occurring in the middle of the day, aligned with the increased prevalence of solar photovoltaic systems.

Western Power considers charging parameters for time of use services should be set at a level that provides strong price signals for periods of peak and low demand. Western Power would therefore support a strong pricing differential between peak and low demand time bands.

Synergy submitted:

The Energy Transformation Reforms and DER uptake have highlighted that network tariffs based on time of use periods are becoming increasingly important as customer demand patterns change during the day. Consequently, with the deepening of the duck-

¹³ For example, expenditure required to deal with over-voltage.

curve, low consumption periods are beginning to drive network costs and augmentation strategies.

Synergy, based on its experience, considers the current TOU periods and time band pricing is out of date and no longer effective. This is largely because the current TOU network service pricing is relatively flat and, in some cases, identical across different time bands.

Synergy advocates time band periods and pricing being reassessed in relation to the new ENAC objectives and the long term interest of customers to ensure an outcome that puts downward pressure on network prices.

Submissions from Western Power and Synergy indicate they have slightly different views on the time periods that should be adopted. Taking account of both submissions, the ERA considers the following time periods would best align with demand patterns for AA5:

- Super off-peak – 9am to 3pm – every day
- Peak – 3pm to 9pm – Monday to Friday
- Shoulder – 6am to 9am and 9pm to 11pm – Monday to Friday
- Off-peak – all other times.

As identified by Synergy, in addition to the current time periods being unsuitable, the current prices also provide little differentiation between different time periods.

In its submission, Western Power has stated that it supports prices that provide strong price signals for periods of peak and low demand. It considers the objective should be to deliver more consistent usage of the network throughout the day in order to avoid significant peaks and lows and ultimately reduce the requirement for network augmentation to address those peaks or lows.

The ERA expects Western Power to address this in its tariff structure statement. Western Power will need to ensure that its proposed time of use tariffs are cost reflective and encourage efficient use of the network. The tariff structure statement will also need to address how existing time of use periods will be transitioned to the revised time of use periods.

Other modifications to existing reference services

Information from Synergy indicates that some reference services have not been used due to shortcomings in the specification of the reference service or pricing. Based on an assessment of the confidential information provided by Synergy, the ERA considers the following changes are required:

- Amend the business energy-based reference services to allow high voltage customers to access them. Currently business energy-based reference services are restricted to customers on the low voltage network. Reference services for high voltage network connections have demand-based tariffs. While this is generally the most appropriate tariff structure for large customers connected to the high voltage network, the ability to access an energy consumption-based tariff if a site becomes vacant or there is a temporary drop in demand would better assist users to manage energy costs.
- Amend the meter reference services to clarify that a user may agree a date for a scheduled meter reading. The Metering Code permits users to request a date for a scheduled meter reading. This requirement needs to be added to the metering reference services.
- Combine the capacity swap reference services into a single service to simplify administrative arrangements and allow the application and use of the service to be

addressed under a single electricity transfer application. Currently the service is split over four different reference services which makes it administratively difficult to manage.

- Combine the remote direct load control and load limitation services and expand to include control of an inverter via the meter. Update the eligibility criteria to address three-phase connections and clarify the requirements to obtain the service. These changes will enable the service to be used and provide the ability for users to manage their customers' demand.
- Clarify the eligibility criteria for the remote de-energise and re-energise services to explain what the controller/end-use customer is required to do to commence the flow of electricity and arrangements if a controller/end-use customer is not available to commence the flow of electricity. These changes are necessary so that the service can be used.
- Include manual de-energisation and re-energisation as reference services under the access arrangement, consistent with remote de-energisation and re-energisation services. These services are currently included under the model service level agreement.

In its submission on the issues paper, Western Power considered there would be benefit in removing duplication between reference service eligibility criteria and the standard electricity transfer access contract and applications and queuing policy. For example, the requirement that consumer facilities and equipment must comply with the Technical Rules is included in the reference service eligibility criteria and the standard electricity transfer access contract.

The ERA agrees there would be merit in removing duplication of requirements.

4.4 New services arising from the Energy Transformation reforms

In the issues paper, the ERA proposed that network services required to implement the Energy Transformation reforms should be included as reference services in the access arrangement. For example, network services are likely to be required to support the use of battery storage and active operation of distributed energy resources. A structured approach based on a carefully thought-out plan to introduce these new services would be better than *ad hoc* development.

Western Power agreed that a structured approach is required but had a different view on how to achieve this

Western Power is of the view that introducing new services as reference services while concepts are still being developed may result in inflexibility in the defined services and contribute to their underutilisation. As an example; direct load control, load limitation services, streetlight LED replacement service, and capacity swap services were introduced as reference services in AA4 and utilisation has been very limited to date. The nature of these services requires collaboration between Western Power and users, often with user-specific customisations. Services with these characteristics may reach maturity more quickly via negotiated non-reference services during AA5, with outcomes informing reference services in future access arrangements. However, Western Power welcomes submissions from stakeholders on changes to existing, or new, reference services that may promote the objectives of the energy transformation reforms or that are likely to be required by a substantial number of network service customers.

The ERA notes Western Power's views about the new reference services in AA4 but considers many of these difficulties could have been overcome if Western Power had engaged earlier with stakeholders during the AA4 process to develop the arrangements for the new services.

Other stakeholders were more supportive of introducing network services required to implement the energy transformation reforms as reference services in the access arrangement. However, it is difficult at this time to identify precisely what new services will be required.

Plans for network connected batteries and electric vehicle charging stations are becoming more common. New reference services are required to support them. The ERA considers the following new reference services are required:

- Bi-directional service for transmission connected storage system
- Bi-directional service for distribution connected storage system
- Exit (and possibly a bi-directional) service for electric vehicle charging points.

Western Power should consult with relevant users to develop the eligibility criteria and charging parameters for inclusion in its access arrangement proposal.

4.5 Metering

The metering services in the current access arrangement enable users to select from a range of meter reading types and frequencies of meter readings, subject to the minimum requirements for a particular network service.

Coupled with the services in the model service level agreement, users should be able to select and pay for the type of meter and reading.

Since the AA4 decision, changes have been made that may affect requirements for future metering services:

- The Access Code has been amended to enable Western Power to recover expenditure to install advanced metering communications infrastructure across the network.
- Five-minute interval readings on a weekly basis will be required for contestable customers for the new wholesale energy market.

Consequently, the standard metering services for each network service may require amendment and the method for calculating metering charges may require review. The ERA expects that Western Power will review the metering service descriptions and eligibility criteria in its access arrangement proposal to ensure metering services reflect the updated requirements.

As set out in Western Power's submission:

Western Power considers the scope of this review should consider:

- the progress of deployment of advanced metering infrastructure and its capability to provide remote reference services (metering)
- wholesale electricity market reforms, which introduce market requirements for five-minute interval energy data and weekly settlement for contestable metering points
- compatibility of permissible reference services (metering) with any new reference services.

Implementing effective metering services that enable users to obtain interval data and upgrade to an advanced meter where it is beneficial to do so will support the development of the actions under the DER roadmap. Energy Policy WA considers:

AMI and access to the associated communications technology is a fundamental enabler to many of the actions under the DER Roadmap, including both distribution network visibility and improved tariff offerings. The full benefit of many of the actions under the DER Roadmap, including those required to support power system security and reliability, will only be realised when AMI coverage is universal. Energy Policy WA understands that universal coverage of AMI in Western Power's service area is currently anticipated to be achieved by 2032, but considers that this timeframe must be accelerated to enable visibility, aggregation and access to a greater variety of pricing products that benefit both the customer and the power system.

4.6 Distributed generation or other non-network solutions

Reference services for facilitating distributed generation or other non-network solutions are included in the current access arrangement. There has been no take-up to date. The changes to the Access Code require Western Power to produce an annual network opportunity map, an alternative options strategy, a vendor register and to demonstrate that non-network alternatives have always been considered before choosing a network solution. This should provide better information to enable prospective users to take up opportunities to install distributed generation or other non-network solutions in places that provide network benefits.

In the issues paper, the ERA considered these changes would enable the current reference service to facilitate distributed generation or other non-network solutions to be used.

Western Power did not support this view.

Western Power does not believe the existing reference services (B3 and C15) to facilitate distributed generation or other non-network solutions should be retained.

Distributed generation and other non-network solutions have the potential to reduce Western Power's capital and/or non-capital costs. Western Power acknowledges the ERA's view that the amendments to the Access Code requiring Western Power to produce an annual network opportunity map, an alternative options strategy and a vendor register will provide information to enable prospective users to take up opportunities to install distributed generation or other non-network solutions in places that provide network benefits.

However, Western Power believes that once these new annual arrangements are in place from October 2021, then having separate reference services available is no longer necessary. The changes introduced in to the Access Code (specifically Chapter 6A), including the Network Opportunity Map, are designed to ensure that all network users have visibility of future costs on the network which creates opportunities for providers of non-network solutions to provide these solutions to Western Power at lower cost than a network option. As part of this process, Western Power will be required to enter into a contract with the provider of the alternative option. This contract will in effect be based on the reduction in network costs. It is unclear at that point, what additional benefit there is from retaining these reference services as the benefit has already been quantified and delivered to the provider of the alternative option.

The advantage of utilising the approach set out in Chapter 6A of the Access Code is that all opportunities are publicly available and available to all network users, while still meeting the intent of the Access Code to provide discounts to distributed generating plant (Section 7.10). The current reference services do not require the opportunities to be public and transparent.

The ERA agrees that the new requirements should result in greater uptake of non-network solutions. However, an entry or bi-directional service will still be required for the distributed generation or another non-network solution to provide the alternative option. These reference services should be retained.

4.7 Smart technology

Technology for smart meters and streetlights is becoming increasingly sophisticated. Generally, the network is likely to have a certain standard of meters/streetlights which could be upgraded to increase functionality. For example, the advanced meters being rolled out by Western Power enable properties to be remotely re-energised/de-energised but do not currently include direct load control/limitation functionality.

Remote re-energise/de-energise is included as a reference service in the current access arrangement. Direct load control and load limitation services were also approved as reference services for AA4 although it was not clear to the ERA at the time that the meters Western Power was installing did not include this functionality.

If a function can be added to existing infrastructure that would provide useful services to enable users to manage demand, it would be preferable that Western Power made the service available to users so there could be a broader take-up. This can be achieved by offering a reference service that clearly specifies what the user needs to do to be eligible for the service (for example, any new equipment or software Western Power would need to install and the relevant charges).

As set out in the issues paper, the ERA considers that the direct load control and load limitation services should be retained and amended to include these eligibility requirements.

Consideration should be given to providing reference services for any other function that could easily be added to Western Power's existing infrastructure and that would enable users to actively manage demand.

Synergy and Alinta agreed with this view. Alinta noted this could help to extract the most value from the network's existing resources. It submitted that early consideration of new metering services will be crucial to their successful implementation and usefulness.

Western Power indicated that it would welcome proposals from users.

As with all reference service requests, Western Power welcomes proposals from stakeholders for new reference services which use some form of smart technology to enable users to actively manage demand. An understanding of user preferences will assist Western Power in the evaluation of any incremental capital and/or non-capital costs associated with establishing new reference services. It will also allow Western Power and ERA to better understand whether the proposed new service is likely to be sought by a significant number of network services customers or a substantial proportion of the network services market as required by the Access Code. Alternatively, Western Power is open to negotiating non-reference services as requirements emerge.

The ERA agrees Western Power would need to work with users to develop effective new services. However, Western Power is best placed to understand the capability of its infrastructure and what services it could provide. Western Power should be motivated to identify services it can offer to users and earn revenue.

The ERA expects Western Power to engage with stakeholders about the capability (and potential) of its metering and streetlight assets to provide services that will enable users to actively manage their demand.

Draft decision – Reference services

Western Power must retain the current reference services with the following amendments:

- Modify the following existing services:
 - Entry reference services and capacity allocation swap services must be amended to reflect the introduction of constrained access.
 - The time of use periods must be modified to reflect forecast demand patterns for AA5. The required time periods are:
 - Super off-peak – 9am to 3pm – every day
 - Peak – 3pm to 9pm – Monday to Friday
 - Shoulder – 6am to 9am and 9pm to 11pm – Monday to Friday
 - Off-peak – all other times
 - Amend the business energy-based reference services to allow high voltage end-use customers to access them.
 - Amend the meter reference service description to clarify that a user may agree a date for a scheduled meter reading. Combine the capacity swap reference services into a single service to simplify administrative arrangements and allow the application and use of the service to be addressed under a single electricity transfer application.
 - Combine the remote direct load control and load limitation services and expand to include control of an inverter via the meter. Update the eligibility criteria to address three phase connections and clarify the requirements to obtain the service.
 - Clarify the eligibility criteria for the remote de-energise and re-energise services to explain what the controller/end-use customer is required to do to commence the flow of electricity and arrangements if a controller/end-use customer is not available to commence the flow of electricity.
 - Include manual de-energisation and re-energisation as reference services under the access arrangement, consistent with remote de-energisation and re-energisation services. Remove eligibility criteria that is covered in the standard electricity contract and applications and queuing policy.
- New reference services for:
 - Transmission connected storage systems
 - Distribution connected storage systems
 - Electric vehicle charging points

5. Method for setting service standard benchmarks

Each reference service must have a service standard benchmark:

Service standards for each reference service

5.6 A service standard benchmark for a reference service must be:

- (a) reasonable; and
- (b) sufficiently detailed and complete to enable a user or applicant to determine the value represented by the reference service at the reference tariff.

The ERA must determine the method for setting service standard benchmarks in the framework and approach.

The current access arrangement includes the following service standard benchmarks:

- Transmission entry and exit reference services:
 - Circuit availability, which measures the availability of the transmission network. Circuit availability is based on the actual circuit hours available for transmission circuits divided by the total possible defined circuit hours available. It includes planned and unplanned outages.
 - Loss of supply event frequency, which measures the frequency of events where loss of supply occurs (except due to planned outages) to transmission connected customers on reference services and is reported separately for events exceeding 0.1 system minutes and 1.0 system minutes.
 - Average outage duration, which measures the average duration in minutes of all unplanned outages on the transmission network for customers on transmission reference services.
- Distribution entry, exit, bi-directional, capacity allocation, and remote direct load control/limitation services:
 - System average interruption duration index (SAIDI) for urban areas, rural-short and rural-long feeders and the Perth central business district, which measures the average number of minutes per customer of outages on the distribution network in a year.
 - System average interruption frequency index (SAIFI) for urban areas, rural-short and rural-long feeders and the Perth central business district, which measures the average number of interruptions per customer in a year.
 - Call centre performance, which measures the percentage of calls responded to in 30 seconds or less.
- Streetlighting services:
 - Service standards that apply to distribution services.
 - Repair time.

A range of exclusions is specified in the access arrangement:

- Transmission:
 - Outages and peak demand for customers receiving a non-reference service.
 - Planned interruptions (except transmission circuit availability which includes planned outages but capped at 14 days).

- *Force majeure* events.
- Interruptions caused by a fault or other event on a third-party system.
- Momentary interruptions (less than one minute).
- The duration of each interruption is capped at 14 days.
- Distribution SAIDI/SAIFI:
 - Interruptions caused by a fault or other event on the transmission system.
 - Planned interruptions.
 - A day on which the major event day threshold, applying the “2.5 beta method”, is exceeded.¹⁴
 - *Force majeure* events.
 - Interruptions caused by a fault or other event on a third-party system.
- Call centre:
 - Calls abandoned by a caller in four seconds or less of their postcode being automatically determined or when a valid postcode is entered by the caller.
 - Calls abandoned by a caller in 30 seconds or less of the call being placed in the queue to be responded to by a human operator.
 - All telephone calls received on a major event day which is excluded from SAIDI and SAIFI.
 - A fact or circumstance beyond the control of Western Power affecting the ability to receive calls to the extent that Western Power could not contract on reasonable terms to provide for the continuity of service.

The AA3 and AA4 service standard benchmarks for transmission and distribution network reference services were set based on the 97.5th (or 2.5th) percentile of actual performance over the previous period.

The service standard benchmarks are the minimum level of service customers should receive. As a general principle, recent historical measures of service standards provide an appropriate starting point for determining service standard benchmarks. However, as the benchmarks need to be set in advance of the access arrangement period, historical measures should be adjusted for factors considered likely to cause service standards to vary from historical measures during the access arrangement period. These factors may include, for example, planned disruptions to networks and/or services, and new investment or changes to maintenance activities that directly or indirectly improve service quality.

¹⁴ This method excludes events which are more than 2.5 standard deviations greater than the mean of the log normal distribution of five financial years of SAIDI data. The major event day threshold is determined at the end of each financial year for use in the next financial year. The data set comprises daily unplanned SAIDI calculated over the five immediately preceding financial years after exclusions are applied. Where the logarithms of the data set are not normally distributed, the Box-Cox transformation can be applied to reach a better approximation of the normal distribution.

If Western Power applies the Box-Cox transformation it must:

- Demonstrate that the natural logarithm of the data set is not normally distributed.
- Provide the calculations that demonstrate the application of the Box-Cox transformation method.
- Demonstrate that the resulting data set is normally distributed or that the normality of the data set is improved.

The ERA considers the method for calculating the benchmarks should continue to be based on the 97.5th (or 2.5th) percentile of actual performance over the previous period. Updating the benchmarks to reflect the most recent historical period will take account of changing trends in performance due to environmental factors.

In addition, if Western Power proposes any planned disruptions, new investment, or changes to maintenance activities in its access arrangement proposal that would affect service standard performance, it should include details in its access arrangement proposal so that the service standards can be adjusted if appropriate. This must include the effect of any new technologies on reliability such as any forecast improvements in SAIDI and SAIFI due to the installation of stand-alone power systems or batteries.

In its response to the issues paper, Western Power proposed that the method for setting the service standard benchmarks should be amended to use the 99th (or 1st) percentile.

Western Power considers the method for calculating service standard benchmarks (SSBs) should be reviewed to ensure that the levels at which SSBs are set continue to provide:

- the right incentives for Western Power to continue to seek cost efficiencies to provide an affordable and valued service to our customers; and,
- the required SSB levels to deliver on customer expectations with respect to reliability and the customer felt experience.

The SSB compliance levels should be set at levels that can consistently be met during each financial year of AA5. If SSB compliance levels are set at levels that cannot be consistently achieved, the implication of Access Code clause 11.1 is that greater investment is required to meet the SSB compliance levels:

- 11.1 A service provider must provide reference services at a service standard at least equivalent to the service standard benchmarks set out in the access arrangement.

Western Power considers the implications of the challenging external environment experienced in recent times, ... are not reflected in the current methodology for setting SSBs. In particular, Western Power's most recent 2019/20 service standard performance report noted that weather and broader environmental factors (such as bushfires) have played a part in recent network reliability performance. In addition, responding to these emergency environmental events requires resources to be diverted from other planned works on the network which can have a related impact on reliability and SSB performance in other areas. This has seen a variance in Western Power's performance over time (after exclusions) which impacts our performance against the SSB levels.

Western Power considers the current methodology for setting SSB levels based on the 97.5th (or 2.5th) percentile of actual performance over the previous period does not capture the full impact of shifts in performance (i.e. volatility) in recent years. Continuing with this approach may inappropriately incentivise a focus on addressing the factors that are creating the increased volatility in performance over time, rather than the factors that are causing a shift in the underlying trend in performance to meet a service standard benchmark measure.

Western Power considers that setting SSB levels at the 99th (or 1st) percentile of actual performance over the most recent actual 5-year or 10-year period would more successfully achieve the outcomes customers are seeking with respect to maintaining current levels of reliability performance throughout AA5 and meeting the Access Code obligations to meet at least the SSB levels each financial year. An alternate approach could be to clarify that SSB levels are set at levels that "must be reasonably achieved" to recognise instances where emerging external factors cause performance worse than the SSBs, whilst still incentivising Western Power to address the factors impacting SSB performance within its control.

Western Power indicated that it is intending to provide information in its access arrangement proposal on any expenditure or other matters that will affect service standard performance.

Western Power acknowledges the ERA's proposed amendment to adjust service standards for specific impacts where appropriate.

Western Power's fifth access arrangement submission will clearly articulate the required capital and operating expenditure to deliver network outcomes in line with customer and community expectations. The submission will include the expected outcome on reliability and service standards. Where planned disruptions, new investment, changes to maintenance activities or any other factors which may affect service standard performance, Western Power may propose step changes, either upwards or downwards, in its submission to reflect the expected impact.

...

Whilst it is evident that weather and TFB days play a part in network reliability performance, understanding how this may shift average performance in the future is a very real challenge. Western Power is continually assessing the impact of these environmental events on service standards and operational activities and, where robust data exists, Western Power will propose specific step changes to SSBs as part of the AA5 submission.

The ERA does not agree with Western Power's proposal to change the percentile used to set the service standard benchmarks. The number of service standard benchmark failures has been very small.

Updating the benchmarks to reflect the most recent historical period will take account of changing trends in performance due to environmental factors. If Western Power is able to provide evidence to support a step-change in a particular environmental factor affecting specific service standards, it could put a proposal forward to amend a specific measure if appropriate.

In addition, as discussed above, if Western Power proposes any planned disruptions, new investment, or changes to maintenance activities in its access arrangement proposal that would affect service standard performance, it can include details in its access arrangement proposal so that the service standards can be adjusted if appropriate.

As AA5 is targeted to commence on 1 July 2023, the revised service standard benchmarks will apply from 1 July 2023. The current service standard benchmarks will apply until that date.

5.1 Circuit availability

The current transmission service standard benchmarks include circuit availability. Circuit availability can be a lead indicator of unreliability. If availability is low because of outages of network equipment, then there is an increased probability that reliability may be affected. However, as the transmission network includes a level of redundancy, circuit unavailability does not necessarily result in an interruption to customers.

In the issues paper, the ERA proposed that the circuit availability measure should be removed as it does not measure the actual service provided to customers.

In its submission on the issues paper, Western Power agreed with the ERA's view.

5.2 New transmission measure

Reliability for transmission connected customers on reference entry services is not currently directly captured by the service standard benchmarks. As discussed above, circuit availability can be an indicator of reliability but does not measure whether a generator was able to generate when called on. A better indication would be a measure of the frequency (and/or quantity of energy) that a generator would have been dispatched by AEMO and could not be due to a planned or unplanned network outage. In the issues paper, the ERA proposed that a new service standard benchmark should be developed to capture this.

In its submission on the issues paper, Western Power considered it is not appropriate or possible to introduce such a measure under the current market arrangements. It considered the effect of planned and unplanned network outages and constraints on the market will have greater focus in the new wholesale energy market design and that any new transmission service standard benchmarks should be considered once the new regime is in place.

The impact of planned or unplanned network outages and constraints on the market will be subject to greater focus in the new WEM. Western Power therefore proposes that any new transmission service standard benchmark be considered once the new regime is in place and there is sufficient experience and data to determine appropriate service standard benchmarks. Western Power understands there will be extensive reporting under the new regime with greater measurement of related market impacts which will provide sufficient information to stakeholders and market participants. Examples of new WEM Rules provisions increasing review and reporting include:

- ERA review – once every five years the ERA must conduct an economic study on the impact of Network Operator outages on the market against the Wholesale Market Objectives. Any recommendations made by the ERA to change the WEM Rules or WEM Procedures must be submitted as a Rule Change Proposal;
- Coordinator of Energy review - once every five years the Coordinator must conduct a review of the Outage planning process against the Wholesale Market Objectives. Any recommendations made by the Coordinator to change the WEM Rules must be submitted as a Rule Change Proposal.

There will also be a Congestion Information Resource (CIR) which will be published by AEMO and is expected to provide a consolidated source of information relevant to the understanding and management of transmission network congestion (constraint) risk, including:

- major transmission outages including trends and insights (such as outage duration, types of outages and outage submit time versus start time);
- assessment of market impact of network congestion;
- provide network congestion information in cost-effective and timely manner;
- allow Rule Participants and stakeholders to understand patterns and market impact of network congestion.

Western Power therefore does not support the new transmission service standard benchmark as proposed by the ERA. Western Power considers that appropriate mechanisms exist in the new WEM Rules framework to ensure that network outages are effective via the Network Operator's obligation to co-ordinate network outages and the one in five year reviews by the ERA and Energy Co-ordinator. Western Power considers these mechanisms should be maintained in the WEM Rules framework and not through the service standard benchmarks framework.

In general, Western Power considers the introduction of new service standard benchmarks should be carefully planned and tested to ensure they deliver outcomes in the long-term interests of consumers. This generally requires consideration of how measures should evolve over multiple access periods.

Western Power considers additional consultation with the ERA, AEMO and other stakeholders may be required during AA5 to develop an appropriate alternative measure and to collect data to inform amendments to transmission service standard benchmarks for following access arrangements.

AEMO supported consideration of the market cost of network outages in the service standard benchmarks and service standard adjustment mechanism. It considered the measure would provide a useful link between Western Power's incentives and wholesale market prices and provide valuable information when assessing the net benefits of remedial works and network augmentation.

AEMO recommended that information required for the measure should be based on data that will be published by AEMO because of the Energy Transformation reforms. It suggested aligning the design with the market impact component of the service target performance incentive scheme established by the AER.

Synergy was also supportive and considered the proposed approach to be reasonable.

The ERA considers a service standard measure of this type should be introduced as soon as possible.

The ERA agrees with AEMO's suggestion to use information that will be available under the Energy Transformation reforms and base the design on the market impact component of the AER's service target performance incentive scheme.

As the data is not currently available and probably will not be available for some time, it is unlikely it will be possible to establish a benchmark or target for AA5. However, following the proposed approach will enable the measure to be defined and reported on during AA5. Western Power's access arrangement proposal should include provision for setting up and reporting on the measure during AA5.

5.3 Transmission outages affecting customers on the distribution network

The transmission network is also the primary source of electricity supply for customers on the distribution network. Reliability for distribution-connected customers is captured by SAIDI and SAIFI. However, currently these measures exclude transmission outages. If an interruption to a distribution connected customer was caused by an outage on the transmission network, it is currently excluded from the distribution SAIDI and SAIFI.

Excluding transmission outages from distribution measures may be appropriate in the NEM where transmission and distribution services are provided by different companies. However, Western Power provides both transmission and distribution services to its customers. In the issues paper, the ERA proposed that the current exclusion should be amended so that any interruptions to distribution customers caused by Western Power planned or unplanned outages on the transmission network are included in SAIDI and SAIFI.

As set out in the issues paper, the ERA considers that amending the service standard benchmarks as set out above would provide a better measure of the value represented by each reference service at the reference tariff and that circuit availability can be removed.

In its response to the issues paper, Western Power considered the exclusion for transmission outages from distribution SAIDI and SAIFI measures should be retained.

Whilst Western Power recognises that distribution customers can be impacted by both distribution and transmission unplanned outages, Western Power considers that maintaining SSBs for AA5 separately for the distribution network and transmission network enables the risks and issues related to each of the distribution and transmission networks to be separately and appropriately managed. The transmission network with its fewer, larger assets is planned and managed substantially differently to the distribution network. Expectations of transmission network reliability are significantly higher due to the large number of customers that could be impacted by a single event and this is typically mitigated by strong planning criteria that requires redundancy and security of supply. However, the distribution network with many, smaller assets is not able to justify the high levels of redundancy and is focussed more on management of risks of an outage occurring or reducing response times to outages.

For transmission networks a focus is on how to account for and manage high impact, low probability events. If transmission unplanned outages were included in SAIDI and SAIFI, this could have the impact of skewing the SAIDI and SAIFI performance by a few one-off low probability, high impact events. This could inadvertently drive a focus on investing to address these high impact, low probability events at the expense of addressing other more commonly occurring distribution reliability risks.

Western Power considers that the inclusion of transmission outages in the distribution SAIDI and SAIFI measures will result in a double counting of transmission outages, whilst the existing transmission reliability measures continue to be service standard benchmark measures; loss of supply event frequency $>0.1\text{SMI3}$ and $<1\text{SMI}$, loss of supply event frequency $\leq 1.0\text{SMI}$ and average outage duration. This will mean that Western Power and our customers will be either double rewarded or penalised for performance which will skew the value that customers place on reliability. Adjustments of the service standard benchmark measures needs to be considered holistically to ensure that measures remain independent.

Western Power notes that it already reports on SAIDI and SAIFI under its licence conditions in several ways through its annual Electricity Distribution Licence Performance Reporting. This includes SAIDI and SAIFI performance including unplanned distribution and transmission outages.

The integration of transmission outages into SAIDI and SAIFI compliance benchmarks could lead to unintended outcomes and drivers for Western Power to manage its network and drive investment decisions. Any changes to the distribution and transmission reliability service standard benchmarks needs to be carefully considered to ensure they continue to incentivise the right expenditure and performance outcomes for customers.

Perth Energy agreed with the ERA's view that excluding transmission outages from distribution reliability statistics is not appropriate.

The ERA considers the concerns raised by Western Power can be addressed as follows:

- Western Power can continue to manage its network however it thinks best. Ensuring all unplanned outages are allocated to the customer group affected by them will provide a better measure of the effectiveness of Western Power's management of the network.
- Many high impact, low probability events should be captured and excluded by the Major Event Day methodology.
- Any potential double counting can be addressed by reviewing the transmission service standards to ensure they only include outages affecting transmission connected customers.

5.4 Force majeure

The ERA considers the current exclusion for *force majeure* is not required as it is already adequately dealt with under the calculation of major event days.

However, the ERA accepts that total fire bans and the requirements of emergency services can prevent Western Power from entering an area to restore supply. In the issues paper, the ERA proposed the following exclusion, similar to the approach in the NEM, should be added:

Exclude load interruptions caused or extended by a direction from state or federal emergency services, provided that a fault in, or the operation of the network did not cause, in whole or part, the event giving rise to the direction.

In its submission on the issues paper, Western Power considered the force majeure exclusion should be retained. It provided examples of events during 2019/20 that it considered to be force majeure that had not been excluded under the major event day definition (the Yanchep and Two Rocks bushfire in December 2019, the Katanning bushfire in February 2020 and abnormal storm activity in the North Country in February 2020).

Western Power considers:

The definition of force majeure events is wide ranging and provides Western Power the opportunity to seek exclusion for a force majeure event which is outside of Western Power's control, noting that these such events could extend for many days, weeks or even months.

The ERA considers the proposed new clause would deal with events that affect a small group of customers and are not picked up in the Major Event Day calculation. It retains its view that force majeure is not required as it is adequately dealt with under the calculation of major event days.

Western Power supported the proposed new clause in principle. It proposed some further amendments:

- expand the exclusion to include direction from any local or state government body in addition to state or federal emergency services;
- expand the inclusion to specifically refer to Total Fire Ban days; and
- remove the wording of "provided that a fault in, or the operation of the network did not cause, in whole or part, the event giving rise to the direction."

Perth Energy raised concerns about the proposed new clause:

Any outage due to a bush fire, or similar emergency, is a real loss of value to customers. While not caused directly by Western Power, any such loss needs to be reflected back to Western Power so that it can be taken into account in planning of maintenance and, longer term, new investment. Data, including the estimated financial impact on customers, should certainly be retained to support future business cases for new investment or changed maintenance practices.

The ERA considers it is reasonable to expand the clause to include local and state government bodies and specifically refer to total fire ban days as follows:

Exclude load interruptions caused or extended by a Total Fire Ban Day or direction from a relevant government body¹⁵ provided that a fault in, or the operation of the network, did not cause in whole or part the event giving rise to the direction.

¹⁵ A local or state government body or state or federal emergency services.

Although in some cases it may not be clear for some time after the event whether the service provider was at fault, the ERA considers it is important to retain the provision to maximise incentives for Western Power to manage bushfire risks.

As identified by Perth Energy, outages due to bush fires or similar emergencies are a loss of value to customers. When setting the reporting requirements for Western Power's annual reports on service standards, the ERA will include a requirement for information on the effect of any bushfires on interruptions to inform future assessments of Western Power's bushfire management plan and associated expenditure.

5.5 Distribution planned outages

As set out in the issues paper, the ERA considers planned outages should continue to be excluded from SAIDI and SAIFI service standard benchmarks. However, they are still a significant disruption to customers. In the issues paper, the ERA proposed introducing increased reporting requirements to provide better information on the level and reason for planned outages.

In its response to the issues paper, Western Power considered that additional reporting is unnecessary.

Western Power acknowledges the ERA's view to continue to exclude planned outages from distribution service standards. However, Western Power considers increased reporting requirements unnecessary, due to the extensive reporting obligations that already exist under our licence conditions. These obligations are satisfied through our annual electricity distribution licence performance reporting ...

The ERA acknowledges there are a variety of reporting obligations that include planned outages. Under section 11.4 of the Access Code, the ERA can specify the criteria to be addressed in Western Power's annual service standard report and the format of the report. The ERA will consider any information required on planned outages when specifying the requirements for the annual service standard reports during AA5.

5.6 Metering services

In its submission on the issues paper, Synergy recommended that service standards for metering reference services should be included in the service standard benchmarks and the service standard adjustment mechanism.

As identified in Synergy's submission, service standards for metering services are set out in the model service level agreement. The model service level agreement includes provisions requiring Western Power to meet its obligations and enabling users to be compensated if a service failure by Western Power results in the user incurring additional costs. The ERA considers these provisions are adequate to incentivise Western Power to meet metering service standards and it is not necessary to provide additional incentives in the service standard adjustment mechanism.

Draft decision – Method for setting service standard benchmarks

The method for calculating the benchmarks should continue to be based on the 97.5th (or 2.5th) percentile of actual performance over the previous period.

Western Power must include in its access arrangement proposal details of any planned disruptions, new investment or changes to maintenance activities that would affect service standard performance, so that the service standard benchmarks can be adjusted if appropriate. For example, any forecast improvements in SAIDI and SAIFI due to the installation of stand-alone power systems.

The following changes must be made to specific measures:

- Circuit availability must be removed.
- Western Power must commence preparation for a new service standard based on the market impact component of the AER's service standard performance incentive scheme.
- Transmission unplanned outages affecting distribution connected customers must be included in SAIDI and SAIFI. The transmission service standards must be reviewed to ensure they only include outages affecting transmission connected customers.
- The force majeure exclusion must be deleted.
- A new clause must be added to the relevant measures to exclude load interruptions caused or extended by a total fire ban or direction from a local or state government body or state or federal emergency services, provided that a fault in, or the operation of the network did not cause, in whole or part, the event giving rise to the direction.

6. Price control

The access arrangement review includes the determination of revenue that Western Power can earn for providing covered services during the access arrangement period. The “price control” determines the revenue Western Power can earn. It may take any form and must meet the following objectives:^{16 17}

- Give Western Power an opportunity to earn revenue (“target revenue”) for the access arrangement period from the provision of covered services as follows:
 - An amount that meets the forward-looking and efficient costs of providing covered services, including a return on investment commensurate with the commercial risks involved.
 - An amount to the extent necessary to reward the service provider for efficiency gains and innovation beyond the efficiency and innovation benchmarks in a previous access arrangement.
 - Recovery of deferred revenue.
 - Recovery of advanced metering communications infrastructure expenditure.
 - Unforeseen events during the previous access arrangement.
 - Technical Rule changes during the previous access arrangement.
 - Investment adjustment mechanism.
 - Service standards adjustment mechanism.
 - Tariff Equalisation Contribution.
- Enable users to predict the likely annual changes in target revenue during the access arrangement period.
- Minimise, as far as reasonably possible, the variance between expected revenue for the last pricing year in the access arrangement period and the target revenue for that last pricing year.

The current price control determines target revenue by reference to approved total costs using a building block approach incorporating the following elements:

- operating costs
- depreciation
- return on the regulated capital base
- taxation
- tariff equalisation contributions
- adjustments from the previous access arrangement.

¹⁶ Section 6.4 of the Access Code.

¹⁷ Examples of different forms of price control include a revenue cap that controls total revenue, average revenue cap or revenue yield that that controls average revenue per customer and a price cap that controls changes in prices.

The regulated capital base is derived as follows:

$$\begin{aligned} & \text{Opening capital base + forecast capital expenditure (net of capital contributions) –} \\ & \text{depreciation – redundant assets} \\ & = \text{Closing capital base} \end{aligned}$$

Annual adjustments are made to target revenue for the debt risk premium update.

The form of the current price control is a modified revenue cap. When Western Power updates its tariffs each year, it must ensure that the forecast revenue from those tariffs is equal to the target revenue determined by the price control formula. Prices for each reference service can vary, providing increases are no more than two per cent above the overall average increase in total revenue. This is achieved by side constraint provisions in the price control.

There is no adjustment for any under-recovery or over-recovery of actual revenue compared with forecast revenue from previous years. In addition, the forecast customer numbers, energy volumes and other charging parameters for each reference service must be consistent with the demand forecast approved in the access arrangement decision.

In the issues paper, the ERA proposed the current form of price control should apply for the AA5 period. However, it considered that the new pricing provisions introduced with the Energy Transformation amendments to the Access Code reduced the need for separate price controls for transmission and distribution and the side constraint provisions.

In its submission on the issues paper, Western Power proposed some additional amendments to the price control.

Western Power considers the current price control is asymmetric.

As noted by the ERA, the current form of price control ensures Western Power is exposed to demand risk rather than guaranteeing Western Power a fixed level of revenue and passing on the costs (or returning revenue) to users. However, Western Power notes that in practice, the current form of price control has unlimited in period downside volume risk and revenue risk for Western Power. However, the upside volume and revenue opportunity is impacted by the annual target revenue approved for AA4 at the time of setting the annual price list as per section 6.5.3 above. This results in an asymmetrical pricing constraint.

Western Power therefore proposes to remove section 6.5.3 in order to remove the asymmetrical pricing constraint.

Western Power proposed demand risk should be shared with customers by incorporating a revenue uncertainty adjustment mechanism.

Western Power considers that exposure to significant and unexpected demand volatility within an access arrangement period, that is outside the control of Western Power, should not be borne in full by Western Power, this includes both upside and downside demand volatility. Western Power therefore proposes that if the increase or decrease in demand, and therefore revenue, is sufficiently material, Western Power and customers should share this demand risk. One method to achieve this is through a revenue uncertainty adjustment mechanism.

Western Power agreed that the Energy Transformation amendments result in separate price controls and the side constraint no longer being required. However, Western Power noted that separate revenue components may be required for the service standard adjustment mechanism.

Synergy supported the ERA's position on demand risk and advocated for continuation of the current form of price control in AA5.

Synergy supported a single price control mechanism and removal of the side constraint subject to ensuring there is no cross subsidy between transmission and distribution users.

Perth Energy did not have a position on the preferred mechanism for overall price control but was concerned about the potential for price shock. It noted that large stepped increases can cause bill shock for its retail customers and would prefer a smoother price path.

Energy Policy WA considered that revenue uncertainty could lead to a preference for more conservative network pricing structures such as higher fixed charges and flat per kilowatt hour rates. It considered such pricing structures reduce retailers' ability to offer tariffs that incentivise consumption behaviour and investment decisions (such as for energy storage) that would support the efficient operation of the power system and place downward pressure on its overall cost.

Each of these matters is considered below.

6.1 Form of price control

Western Power submitted that the current mechanism is asymmetrical. The ERA does not agree. Forecast revenue for the purposes of the price control is based on the demand forecast consistent with the access arrangement. Any increase or reduction in demand and revenue compared with the access arrangement demand forecast is retained or borne by Western Power.

Western Power has proposed that exposure to significant and unexpected demand volatility within an access arrangement period, that is outside the control of Western Power, should not be borne in full by Western Power. Western Power proposed that if the increase or decrease in demand, and therefore revenue, is sufficiently material, Western Power and customers should share this demand risk. It suggested this could be implemented through a revenue uncertainty adjustment mechanism.

Western Power has not provided any reasons why this would be in the long-term interests of consumers.

The current price control provides strong incentives for Western Power to develop more efficient tariffs, encourage the connection of new customers and offer services that meet user requirements and benefit Western Power through increased revenue, reduced costs or a combination of both.

The requirement to manage revenue risk could incentivise Western Power to under-forecast demand. However, the ERA considers there are other factors that discourage or mitigate this:

- There needs to be consistency between the demand forecast and any expenditure required to meet demand. Understating the demand forecast could risk capital expenditure not being approved. This control will be strengthened by removing growth expenditure from the investment adjustment mechanism.
- The ERA is able to review and adjust the demand forecast if needed. Other bodies, particularly AEMO, also provide useful references to test the forecasts against and/or provide an alternative view.

The ERA considers the current price control will support the development of efficient tariffs for the transition to increasing renewable energy including distributed energy resources. Western Power is incentivised to identify innovative services and the corresponding efficient tariff structures that will best match the needs of users using the new services. The need to manage

demand risk also incentivises Western Power to set tariffs that assist it to manage demand on the network and its consequent costs.

Significant and unexpected demand volatility within an access arrangement that is outside the control of Western Power can be addressed through the provisions in the current access arrangement for trigger events. A trigger event is any significant unforeseen event which has a materially adverse effect on Western Power and which is:

- outside the control of Western Power; and
- not something that Western Power, acting in accordance with good electricity industry practice, should have been able to prevent or overcome; and
- so substantial that the advantages of making a variation to this access arrangement before the end of this access arrangement period outweigh the disadvantages, having regard to the impact on the variation on regulatory certainty.

Western Power can apply to the ERA for a review of its access arrangement if it considers a trigger event has occurred.

6.2 Separate price controls and the side constraint

The current access arrangement includes separate price controls for the transmission and distribution network. In addition, there is a side constraint that restricts the change for each tariff to be no more than 2 per cent above the overall average change in tariffs.

The Energy Transformation amendments to the Access Code include new requirements for the information Western Power must include in its access arrangement on tariffs and the principles it must follow to set reference tariffs. In addition, the requirement to avoid price shocks (that is, sudden material tariff adjustments between succeeding years) has been deleted from the price control objectives and pricing methods.

Western Power is required to include a tariff structure statement and reference tariff change forecast setting out the forecast change in each tariff for each year of the access arrangement. These documents must comply with the revised pricing principles in Chapter 7 of the Access Code. The principles include:

- 7.3G Each reference tariff must be based on the forward looking efficient costs of providing the reference service to which it relates to the customers currently on that reference tariff with the method of calculating such cost and the manner in which that method is applied to be determined having regard to:
- (a) The additional costs likely to be associated with meeting demand from end-use customers that are currently on that reference tariff at times of greatest utilisation of the relevant part of the service provider's network; and
 - (b) The location of end-use customers that are currently on that reference tariff and the extent to which costs vary between different locations in the service provider's network.
- 7.3H The revenue expected to be recovered from each reference tariff must:
- (a) Reflect the service provider's total efficient costs of serving the customers that are currently on that reference tariff;
 - (b) When summed with the revenue expected to be received from all other reference tariffs, permit the service provider to recover the expected revenue for the reference services in accordance with the service provider's access arrangement; and

- (c) Comply with sections 7.3H(a) and 7.3(b) in a way that minimises distortions to the price signals for efficient usage that would result from reference tariffs that comply with the pricing principle set out in section 7.3G.

These changes will provide greater flexibility and clarity for setting tariffs for all customers. The Code amendments will require Western Power to undertake a more detailed cost allocation focussed on each reference service and ensure that each tariff is cost reflective.

These new requirements will provide greater transparency about how costs are allocated to each reference service, including between transmission and distribution connected customers.

As a minimum, Western Power's cost allocation will need to continue to separately identify transmission network, distribution network and common costs. Western Power will be required to explicitly allocate costs from each of those categories to each reference service.

Setting separate target revenues for the transmission and distribution services will no longer be necessary and should be discontinued. As the new requirements provide a greater disaggregation of revenue than is currently the case, any disaggregated revenue needed for the service standard adjustment mechanism can be derived from the reference tariff change forecast required for the access arrangement.

Western Power's access arrangement is now required to include a tariff change forecast setting out the forecast change in each tariff for each year of the access arrangement. This will allow consultation during the access arrangement review on the price path for each reference tariff.

Although the requirement to avoid price shocks has been removed, there is a new requirement under section 7.3H(c) to minimise distortions to price signals for efficient usage. This will allow any tariff re-balancing required to bring tariffs in line with efficient costs to be smoothed over the access arrangement period. Consequently, the side constraint that is currently used to manage tariff re-balancing is no longer required.

The profile of target revenue over the access arrangement period will be determined during the access arrangement review. The Energy Transformation amendments to the Access Code include a requirement that the variance between expected revenue for the last pricing year in the access arrangement period and the target revenue for that last pricing year should be minimised as far as possible.

The AA5 decision will determine total target revenue for the five-year period from 1 July 2022. Western Power's current price list will apply until the revised access arrangement comes into effect.¹⁸ The ERA will take account of revenue received for the period between 1 July 2022 and the commencement date of the revised access arrangement when determining target revenue for the remaining AA5 period.

Draft decision – Price control

The current form of price control will be retained with the following amendments:

- A single price control will be set.
- The side constraint will be removed.

¹⁸ This is targeted for 1 July 2023.

7. Investment adjustment mechanism

Actual capital expenditure during an access arrangement period will typically differ from the forecast made when the access arrangement was approved. This difference may be in the type of investment, timing and/or cost.

Sections 6.13 to 6.18 of the Access Code provide for an access arrangement to include an “investment adjustment mechanism” that indicates how any difference between forecast and actual new facilities investment (the “investment difference”) is to be treated at the next access arrangement review.

The Access Code does not specify the types of expenditure or the form of the adjustment.

- 6.16 Without limiting the types of investment adjustment mechanism which may be contained in an access arrangement, an investment adjustment mechanism may provide that:
- (a) adjustments are to be made to the target revenue for the next access arrangement in respect of the full extent of any investment difference; or
 - (b) no adjustment is to be made to the target revenue for the next access arrangement in respect of any investment difference.
- 6.17 An investment adjustment mechanism must be:
- (a) sufficiently detailed and complete to enable the Authority to apply the investment adjustment mechanism at the next access arrangement review; and
 - (b) without limiting this Code, consistent with the gain sharing mechanism (if any) in the access arrangement;
 - (c) consistent with the Code objective.

Western Power’s current investment adjustment mechanism provides for an adjustment to target revenue in the next access arrangement period that corrects for any economic loss or gain due to differences between forecast and actual capital expenditure, taking into account inflation and the time value of money, for the following classes of capital expenditure:

- connecting new generation capacity
- connecting new loads
- augmentation of the network to provide covered services
- State Underground Power Program.

In general, the ERA considers that it is desirable that the service provider keeps the benefit of any out-performance of cost forecasts and incurs the cost of any under-performance. This is the basis of incentive regulation, whereby the service provider is faced with an incentive to minimise costs.

An investment adjustment mechanism could partially or fully undo the incentive for a service provider to out-perform the forecasts of new facilities investment. To the extent that this occurs, an investment adjustment mechanism may be inconsistent with the Code objective (in respect of efficiency of investment). Opportunities for an investment adjustment mechanism to operate consistently with the Code objective are therefore limited to situations where the incentive structure under the Code would fail to operate as normally expected.

The current mechanism is consistent with the revenue cap price control that applied prior to 2019/20. The revenue cap price control protected Western Power from revenue risk if demand

was different from forecast. The investment adjustment mechanism sheltered Western Power from the capital cost risk of additional investment needed to meet demand in excess of forecast or less investment needed if demand was less than forecast.

However, the current price control effectively already includes an adjustment mechanism. As Western Power receives more revenue if demand is greater than forecast and less revenue if demand is less than forecast, there is less need for the investment adjustment mechanism to include expenditure for growth and customer demand.

In its response to the issues paper, Perth Energy supported the statement that “it is desirable that the service provider keeps the benefit of any out-performance of cost forecasts and incurs the cost of any under-performance.”

Western Power considered the ERA’s view to be reasonable providing the current asymmetrical pricing constraint (in its view) is removed.

As discussed in the price control section, the ERA considers that the current price control is symmetrical.

Synergy supported the proposed amendment but considered adequate scrutiny of new facilities investment is required to ensure costs are not overstated. Synergy provided examples of forecast expenditure it considered should not be included, or treated as redundant capital, at the following access arrangement period:

1. Situations where an approved forecast new facilities investment has not been committed to or implemented within an access arrangement period.
2. Situations where an approved forecast new facilities investment has been implemented despite the need for the augmentation being no longer required. This could occur for example, due to the service provider under-forecasting customer demand, demand response behaviour and/or private investment in non-network solutions, resulting in the investment being (redundant and) no longer required for the provision of covered services. The risks associated with forecast error should be borne by the forecaster. This will provide an appropriate incentive for the service provider to minimise forecast error.

The capital expenditure forecast determined in an access arrangement is a sum of money the service provider must manage efficiently during the access arrangement period. Circumstances will change and it is not required to spend it on the specific projects considered in the access arrangement. The Access Code requires the ERA to conduct an ex-post review of all capital expenditure. This should enable any inefficient expenditure to be identified. As the service provider can keep the benefit of any savings during the access arrangement, including growth and customer driven expenditure if they are removed from the investment adjustment mechanism, it is less likely an augmentation would be implemented if it was no longer required.

The ERA considers removing growth and customer driven expenditure from the investment adjustment mechanism will improve incentives for Western Power to seek efficiencies in capital expenditure.

The investment adjustment mechanism will continue to apply to the State Underground Program.

The NEM framework includes a capital expenditure sharing scheme that provides an additional incentive by allowing the service provider to retain capital expenditure efficiencies for a longer period of time.

The ERA agrees this type of mechanism is useful for operating expenditure where efficiency gains are more closely aligned with continuing operations. The ERA considers it is not warranted for capital expenditure.

Draft decision – Investment adjustment mechanism

The following categories must be removed from the investment adjustment mechanism set out in clause 7.3.7 of the current access arrangement:

- Connection of new generation capacity.
- Connection of new load.
- Augmentations to provide additional capacity.

8. Gain sharing mechanism

Like capital expenditure, actual operating expenditure during an access arrangement period will differ from the forecast made when the access arrangement was approved. The service provider is incentivised to minimise costs as it keeps the benefits of any out-performance of operating cost forecasts and incurs the costs of any under-performance during the access arrangement period.

The gain sharing mechanism provides an additional incentive by allowing the service provider to retain operating expenditure efficiencies for a longer period of time.

Requirements for the gain sharing mechanism are set out in section 6.19 to 6.28 of the Access Code.

Western Power's current gain sharing mechanism provides for an adjustment to target revenue in the next access arrangement period so that Western Power retains the benefit of operating cost efficiencies for five years (the year the efficiency was made plus four additional years) regardless of which year the efficiency was made.

The gain sharing mechanism increases the incentive to Western Power to achieve operating cost efficiencies during an access arrangement period as it ensures that Western Power retains the efficiency saving for the same period of time, regardless of which year during the access arrangement period the efficiency was made.

Without this mechanism, efficiency savings made in year one would be retained for five years but savings in year five would be retained for only one year. Consequently, there would be less incentive to make efficiency savings in the latter years of an access arrangement period.

The Energy Transformation amendments to the Access Code included changes to the gain sharing mechanism requirements. An extract of section 6.19 to 6.28 of the Access Code with the Energy Transformation amendments marked in red is included in Appendix 1.

The amendments are:

- The requirement in section 6.26 that an above-benchmark surplus does not exist to the extent that it was achieved by the service provider failing to maintain a service standard at least equivalent to the service standard benchmark has been deleted.
- The Code requirements have been expanded to include both an "above-benchmark surplus" and a "below-benchmark deficit". This ensures the gain share mechanism is symmetrical.
- A new requirement has been added to minimise the effects of the mechanism on incentives for the implementation of alternative options

8.1 Service standards

The current gain sharing mechanism includes provisions to ensure that expenditure savings achieved by, or resulting in, failure to meet service standard benchmarks are not rewarded. These provisions were necessary to meet the requirements of section 6.26 of the Access Code.

The requirement that the above-benchmark surplus does not exist to the extent that a service provider achieves efficiency gains by failing to comply with the service standard benchmarks

has been removed. The gain sharing mechanism must be amended to take account of this change.

This will simplify the gain sharing mechanism. It also results in a consequential amendment to the service standard adjustment mechanism which will no longer require the benchmark as a floor when calculating penalties.

The amendment to the gain sharing mechanism can be achieved by deleting section 7.4.4 to 7.4.6 of the access arrangement.

In its submission on the issues paper, Western Power acknowledged the amendments to the access arrangement were required due to the Energy Transformation changes to the Access Code.

8.2 The mechanism must be symmetrical

The current provisions for the gain share mechanism in the access arrangement refer to an “above-benchmark surplus” and section 7.4.3 of the current access arrangement restricts the total gain share adjustment for each year to be no less than zero.

The gain sharing mechanism amount ($GSMA_{AA}$) for the *access arrangement period* is to be calculated as follows:

$$GSMA_{AA} = \sum[GSMA_{1:5}]$$

where:

$$GSMA_1 = \max(0, ABS_{t1} + ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_2 = \max(0, ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_3 = \max(0, ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_4 = \max(0, ABS_{t4} + ABS_{t5})$$

$$GSMA_5 = \max(0, ABS_{t5})$$

where:

$GSMA_n$ is the total *above-benchmark surplus* for the equivalent year of the *access arrangement period*; and

ABS_t is the *above-benchmark surplus* in year t of the *access arrangement period* calculated in accordance with section 7.4.2

The current mechanism is asymmetrical as a net overspend against forecast would not be deducted from target revenue in the next access arrangement period.

The Energy Transformation amendments to the Access Code require the mechanism to be symmetrical. The gain share mechanism must be amended to take account of this change. Consequently, all references to “above-benchmark surplus” in the access arrangement must be replaced with “above-benchmark surplus or below-benchmark deficit” and the formula in section 7.4.3 must be amended so that the adjustment can be less than zero.

In its submission on the issues paper, Western Power acknowledged the amendments to the access arrangement were required due to the Energy Transformation changes to the Access Code.

8.3 Alternative options

The Energy Transformation amendments to the Access Code include a requirement to minimise the effects of the gain sharing mechanism on incentives for the implementation of alternative options.

The D-factor in Western Power's access arrangement provides for the recovery of operating expenditure incurred by Western Power from deferring/substituting a capital expenditure project or for demand-management initiatives. This type of expenditure is excluded from the gain sharing mechanism. The ERA considers this deals adequately with the Access Code requirement.

In its submission on the issues paper, Western Power submitted:

Western Power acknowledges the ERA's view that the existing requirement for D-factor expenditure to be excluded from the gain sharing mechanism addresses the requirement for the effects of the gain sharing mechanism on incentives for the implementation of non-capital expenditure alternative options to be minimised. Western Power notes that alternative options may involve both capital as well as non-capital expenditure and could be implemented either instead of or in combination with part of a network augmentation.

The gain sharing mechanism applies only to operating expenditure. The D-factor will ensure that any increase in operating expenditure due to the implementation of an alternative option will be excluded when calculating the difference between actual operating expenditure and the efficiency benchmarks.

8.4 Escalation factors

The current gain sharing mechanism includes an *ex-post* adjustment to the efficiency benchmarks for network growth.

The forecast operating expenditure approved at the previous access arrangement was based on forecast network growth and customer growth escalators. The current mechanism uses actual growth factors when calculating the above-benchmark surplus at the end of the period. This ensured that Western Power was not rewarded or penalised for variations from forecast operating expenditure that were attributable to differences in the scale factors driving expenditure and that, conversely, customers did not pay more under the gain sharing mechanism because of slower growth.

Network growth and customer growth escalators will be considered when reviewing Western Power's forecast operating costs at the access arrangement review. Any network growth and customer growth escalators approved in the ERA's determination of forecast operating costs will need to be reflected in the gain sharing mechanism.

8.5 Uncontrollable costs

The current gain sharing mechanism excludes the following expenditure categories on the basis they are outside Western Power's control.

- superannuation costs for defined benefit schemes
- licence fees
- energy safety levy

- ERA fees.

The AER does not exclude “uncontrollable” costs from its equivalent of the gain sharing mechanism on the basis that there is no compelling reason that the forecasting risk associated with uncontrollable operating expenditure be shared differently between service providers and customers than for “controllable” costs.

In the issues paper on the framework and approach, the ERA considered this argument had merit and proposed to remove the exclusion of uncontrollable costs from the gain share mechanism.

In its submission on the issues paper, Western Power did not agree with the proposed amendment

Western Power does not support the removal of the exclusion for costs that are provided by external bodies. Western Power and customers would be subject to rewards and penalties under the gain sharing mechanism if external bodies provide forecasts of their fees that subsequently change within the access arrangement period. Western Power believes the gain sharing mechanism should incentivise Western Power to manage the operating costs within its control and notes that clause 5.26 (c) of the Access Code states that efficiency and innovation benchmarks must be reasonable.

Actual costs could be greater or less than forecast. There is no reason that forecasting risk associated with uncontrollable costs should be treated any differently than controllable costs. Excluding some items of expenditure could reduce incentives to ensure overall operating expenditure is efficient.

Draft decision – Gain sharing mechanism

The current gain sharing mechanism with the following amendments will apply for the fifth access arrangement:

- References to service standard performance must be removed by deleting section 7.4.4 to 7.4.6 of the access arrangement.
- All references to “above-benchmark surplus” in the access arrangement must be replaced with “above-benchmark surplus or below-benchmark deficit” and the formula in section 7.4.3 must be amended so that the adjustment can be less than zero.
- Network growth and customer growth escalators will be considered when reviewing Western Power’s forecast operating costs at the access arrangement review. Any network growth and customer growth escalators approved in the ERA’s determination of forecast operating costs will need to be reflected in the gain sharing mechanism.
- The exclusion of uncontrollable costs must be deleted.

9. Service standards adjustment mechanism

The service standards adjustment mechanism sets out how the ERA will treat the service provider's performance during the access arrangement period against the service standard benchmarks at the next access arrangement review.

The access arrangement must contain a service standard adjustment mechanism. The mechanism must be:

- Sufficiently detailed and complete to enable the ERA to apply the service standards adjustment mechanism at the next access arrangement review.
- Consistent with the Access Code objective.

Western Power's access arrangement includes service standard benchmarks and service standard targets.

The service standard benchmarks are the minimum standards that Western Power must meet. The method for setting the service standard benchmarks is discussed in its own section of this draft decision.

The service standard targets are more stringent. Under the service standard adjustment mechanism, Western Power earns a financial reward if it exceeds the service standard targets and incurs a financial penalty if it performs below the service standard target.

The service standard measures included in the current mechanism are:

- Transmission services:
 - Circuit availability.
 - Loss of supply event frequency.
 - Average outage duration.
- Distribution services:
 - SAIDI for urban areas, rural-short and rural-long feeders and the Perth central business district.
 - SAIFI for urban areas, rural-short and rural-long feeders and the Perth central business district.
 - Call centre performance.

The service standards adjustment mechanism ensures that efficiencies are not achieved at the expense of service standards and that improvements in service standards are made only where they are valued by customers.

The service standards targets were set at the average annual level of performance achieved in the third access arrangement period, adjusted for anticipated changes in service reliability and where individual penalty caps applied during the third access arrangement period.

Basing the targets on the five-year historical average is consistent with the approach adopted by the AER. The method of averaging historical performance on which rewards and penalties have been paid or levied ensures that subsequent targets are linked directly to the financial outcomes of the incentive scheme:

Distributors will only receive a financial reward after actual improvements are delivered to the customers. More importantly, a distributor can only retain its rewards if it can

maintain the reliability improvements on an ongoing basis. Once an improvement is made, the benchmark performance targets will be tightened in future years. That is, the distributors' reliability targets for future years will be based on the level of performance that they have achieved to date. The reward for their improved performance is paid to the distributor (by customers) for five years. After which, customers will retain the benefit of the reliability improvement.

If the reliability levels should fall in the future, the distributor will receive penalties for not meeting the tightened targets—hence, the reward paid to the distributor will be returned to customers if the reliability levels fall.¹⁹

The current distribution incentive rates (penalties and rewards) were determined using the values of customer reliability published by AEMO in 2014 for South Australia.

The transmission incentive rates are based on a percentage of revenue (1 per cent) that is then allocated across the transmission service standard measures.

The total target revenue adjustment under the service standard adjustment mechanism may be positive (net reward) or negative (net penalty) and is subject to caps:

- The sum of the rewards or penalties for the transmission network each year is capped at 1 per cent of total transmission revenue.
- The sum of the rewards for the distribution network each year is capped at 1 per cent of total distribution revenue and the sum of the penalties is capped at 2.5 per cent.

In the issues paper, the ERA proposed to retain the current mechanism with some modifications.

9.1 Method to set targets

Consistent with the current access arrangement, the service standard targets for AA5 will be set based on the average service standard performance for the AA4 period.

If Western Power proposes any planned disruptions, new investment, or changes to maintenance activities in its access arrangement proposal that would affect service standard performance, it should include details in its access arrangement proposal so that the service standards targets can be adjusted if appropriate. This must include the effect of any new technologies on reliability such as any forecast improvements in SAIDI and SAIFI due to the installation of stand-alone power systems or batteries.

As AA5 is targeted to commence on 1 July 2023, the revised targets and service standard adjustment mechanism will apply from 1 July 2023. The current targets and service standard adjustment mechanism will apply for the remainder of AA4. Consequently, a service standard adjustment mechanism will not apply between 1 July 2022 and 30 June 2023.

9.2 Changes to service standard measures

As discussed in the section on service standard benchmarks, the ERA has determined amendments to the service standard benchmarks that would provide a better measure of the value represented by each reference service. The amendments are to:

¹⁹ Australian Energy Regulator, Issues paper, Reviewing the Service Target Performance Incentive Scheme and Establishing a new Distribution Reliability Measures Guidelines, Electricity distribution network service providers, January 2017, p. 8.

- Remove the circuit availability measure.
- Include any interruptions to distribution customers caused by Western Power's unplanned outages on the transmission network in SAIDI and SAIFI. The transmission service standards must be reviewed to ensure they include only outages affecting transmission connected customers.
- The force majeure exclusion for distribution service standards must be deleted.
- A new clause must be added to exclude load interruptions caused or extended by a total fire ban or direction from a local or state government body or state or federal emergency services, provided that a fault in, or the operation of the network did not cause, in whole or part, the event giving rise to the direction.
- Commence preparations to develop a new measure to capture the effect of planned or unplanned network outages on wholesale energy costs.

9.3 Calculation of transmission incentive rates

Currently, total revenue for the transmission service is used to calculate the transmission service standard incentive rates. However, as the transmission service standards apply only to transmission connected customers on reference services, the revenue used to determine the transmission incentive rates should be based on only the revenue attributable to those customers. In the issues paper the ERA proposed to amend the calculation of the incentive rates to use the revenue attributable to the customers the transmission service standards apply to.

In its submission on the issues paper, Western Power did not agree with the ERA's proposal.

Western Power seeks for the incentive rates to continue to apply to total transmission network revenue. The transmission service standards currently in place reflect reliability of the transmission network as a whole, not just the reliability experienced by transmission connected customers.

As discussed under the service standard benchmarks, the ERA considers transmission outages affecting distribution customers should be included in the distribution service standards. The service standards for transmission connected customers are based on the service provided to those customers and the reward and penalty should be based on the revenue attributable to those customers.

9.4 Values of customer reliability

The AER is now responsible for estimating the values of customer reliability in the NEM.

The ERA proposes the most recent available AER results should be used to estimate suitable values for Western Power. There are some differences in the method and format of data compared with the previous study undertaken by AEMO that will need to be accounted for to obtain suitable values for Western Power's customers.

As noted above, the transmission incentive rates are not based on the value of customer reliability. The ERA is giving consideration to whether the information from the AER's study could be used to derive a value of customer reliability for transmission connected customers. This would be a better approach than continuing to use a proportion of revenue as a proxy for the value of customer reliability.

9.5 Caps on individual penalties

Currently, for each performance measure and each year, a reward or penalty is calculated by multiplying the applicable incentive rate by the difference between the service standard target and actual performance, where above-target performance results in a reward and below-target performance results in a penalty.

However, if actual performance does not meet the minimum required level of performance at the service standard benchmark, the applicable penalty is capped at the difference between the service standard target and service standard benchmark, multiplied by the penalty rate.

The penalties were capped because the gain sharing mechanism included a requirement that an above-benchmark surplus did not exist to the extent that a service provider achieved efficiency gains by failing to comply with the service standard benchmarks. Capping the penalty in the service standard adjustment mechanism ensured Western Power was not penalised twice if it did not meet its service standard benchmarks. As discussed under the gain sharing mechanism, the Access Code has been amended to remove the requirement that an above-benchmark surplus did not exist to the extent that a service provider achieved efficiency gains by failing to comply with the service standard benchmarks. Consequently, the service standard adjustment mechanism will no longer require the individual penalties to be capped at the service standard benchmark as Western Power will not be penalised twice.

9.6 Caps on overall rewards and penalties

Currently, the sum of the rewards and penalties for the transmission network is capped at one per cent of total transmission revenue. The ERA proposes to retain the current percentage but, as discussed above, it will be applied to the total revenue applicable to reference service customers connected to the transmission network.

The sum of the rewards for the distribution network each year is capped at one per cent of total distribution revenue and the sum of the penalties is capped at 2.5 per cent. The ERA considers that the caps should be symmetrical, as they are for transmission, and set at one per cent.

In addition, consistent with the revised approach for transmission, the percentage will be applied to the total revenue (including the transmission element) applicable to reference service customers connected to the distribution network.

In its submission on the issues paper, Perth Energy did not agree that Western Power should be paid additional money if it exceeds certain performance standards. In particular, Perth Energy was concerned that the form of the service standard adjustment mechanism results in it becoming an economic decision for Western Power as to whether it should seek to achieve the targets rather than being a firm obligation.

As the mechanism uses the value of customer reliability to set rewards and penalties, the ERA considers it provides a useful tool for Western Power to assess the cost of achieving a particular level of service against the value customers place on reliability to ensure improvements in service standards are made only where they are valued by customers.

The service standard incentive mechanism applied by the AER has higher incentives for service quality improvements as it sets a cap of 1.25 per cent for transmission service providers and five per cent for distribution service providers.

The ERA considers that setting the caps at one per cent provides a balance between enabling the mechanism to provide sufficient investment signals to Western Power for service standards and the overall cost to users.

Draft decision – Service standard adjustment mechanism

The current service standard adjustment mechanism with the following amendments will apply for the fifth access arrangement period.

- The service standards targets must be set at the average annual level of performance achieved in the fourth access arrangement period, adjusted for anticipated changes in service reliability and where individual penalty caps applied during the fourth access arrangement period. Western Power must include details of any planned disruptions, new investment or changes to maintenance activities that would affect service standard performance, in its access arrangement proposal so that the service standard targets can be adjusted if appropriate. For example, any forecast improvements in SAIDI and SAIFI due to the installation of stand-alone power systems.
- The relevant changes to the methodology for calculating service standard benchmarks must be included in the service standard adjustment mechanism.
- Rewards and penalties for SAIDI and SAIFI must be based on the latest Value of Customer Reliability report prepared by the AER.
- Rewards and penalties for transmission service standards must be based on the revenue attributable to customers connected to the transmission network and receiving reference services. Further consideration is being given to whether the AER Value of Customer Reliability data can be used instead.
- The individual caps on penalties must be removed.
- The overall caps for rewards and penalties are 1 per cent of target revenue.

10. Demand management innovation allowance mechanism

The Energy Transformation changes to the Access Code introduced a requirement for a demand management innovation allowance mechanism to be included in Western Power's next access arrangement.

The ERA is required to determine the demand management innovation allowance mechanism as part of the framework and approach.²⁰

In addition, the ERA must publish guidelines on the demand management allowance mechanism including the criteria for projects that will be eligible for the allowance. The guidelines must also set out the information Western Power must submit in a compliance report to the ERA that will be published.

The objective of the demand management innovation allowance mechanism is "to provide service providers with funding for research and development in demand management projects that have the potential to reduce long term network costs."²¹

The allowance must be an "annual, *ex-ante* allowance provided to service providers in the form of a fixed amount of additional revenue at the commencement of each pricing year of an access arrangement period."²²

The ERA is required to determine the maximum amount of the allowance for an access arrangement period.²³ The requirements for determining the level of the allowance are that it:

- Should be reasonable, considering the long-term benefit to consumers.
- May vary over time.
- May fund projects which occur over a period longer than an access arrangement period.²⁴

The allowance must be calculated for each pricing year in the access arrangement period.²⁵ Any amount of allowance not used by the service provider or not approved by the ERA over the access arrangement period must not be carried over or reduce the amount of the allowance for the subsequent access arrangement period.²⁶

The requirements for projects eligible for the allowance are:²⁷

- They should have the potential to reduce long term network costs.
- They should be innovative and not otherwise efficient and prudent alternative options that a service provider should have provided for in its proposed access arrangement.
- They must comply with the guidelines published by the ERA.
- Funding should not be available from any other source.

²⁰ Section 4.A2(d) of the Access Code.

²¹ Section 6.32C of the Access Code.

²² Section 6.32B of the Access Code.

²³ Section 6.32E of the Access Code.

²⁴ Section 6.32G of the Access Code.

²⁵ Section 6.32E of the Access Code.

²⁶ Section 6.32F of the Access Code.

²⁷ Section 6.32G(b) and (c) of the Access Code.

In addition to setting out the demand management innovation allowance mechanism, the guidelines must include the following information:²⁸

- The eligibility criteria the ERA will apply to determine whether a project is entitled to receive the allowance.
- The process, manner and form by which a service provider may apply to the ERA for up-front consideration of a project.
- The information required to be included in a compliance report which must include:
 - The amount of the allowance:
 - Incurred by the service provider to date as at the end of that pricing year.
 - Incurred by the service provider in that pricing year.
 - Expected to be incurred by the service provider in total over the duration of the eligible project.
 - A list and description of each project on which the allowance was spent.
 - A summary of how and why each project complies with the eligibility criteria.
 - The results of each project; and
- Any requirements for the preparation, lodgement and form of a compliance report.

As set out in the Access Code, it is intended that there will be controls to ensure that the allowance is used only for innovative research with the potential to reduce long-term network costs and where funding is not available from any other source. The allowance can only be spent on eligible projects. Any allowance that is not used will be returned to customers. The Energy Transformation Taskforce also indicated that the level of the allowance should be limited.

A similar scheme operates in the NEM. The AER has set allowances for distribution companies of 0.075 per cent of target revenue. This allows the smallest distributor in the NEM (Power and Water) to spend \$1.5 million and the largest distributor (Ausgrid) to spend \$7 million over a five-year regulatory period.

The AER is currently developing a similar allowance for transmission companies. It proposes to set allowances for transmission companies of 0.1 per cent of target revenue. This would allow the smallest transmission company (TasNetworks) up to \$1 million and the largest transmission company (Powerlink) up to \$4 million over a five-year regulatory period.

In the issues paper, the ERA proposed setting the allowance for Western Power at a similar level. Based on the AA4 target revenue, this would equate to approximately \$7 million over the five-year regulatory period, or \$1.4 million each year.

Submissions from Western Power, Perth Energy, the Australian Energy Council and Synergy indicated support for setting the allowance at a level consistent with the AER's approach.

Applying the AER's percentages to the AA4 proportions of transmission and distribution target revenue results in an overall allowance of 0.08 per cent of target revenue. The ERA considers setting the allowance at this level, combined with the eligibility requirements governing how the allowance can be spent, is consistent with the Access Code requirement to be reasonable considering the long-term benefits to consumers.

²⁸ Section 6.32J of the Access Code.

Other matters raised in submissions about project eligibility and reporting requirements will be included in the consultation paper on the demand management innovation allowance guidelines.

Draft decision – Demand management innovation allowance mechanism

Target revenue for the fifth access arrangement will include an annual allowance based on 0.08 per cent of approved target revenue (excluding the allowance) for each pricing year.

The allowance can be used during the fifth access arrangement period for projects that meet the eligibility requirements set out in the Access Code and guidelines published by the ERA.

Western Power will be required to provide annual reports to the ERA in accordance with the guidelines published by the ERA.

Expenditure claimed against the allowance will be reviewed at the next access arrangement. Any allowance that is not used will be returned to customers through an adjustment to target revenue at the next access arrangement period.

Appendix 1 Access Code amendments to the gain share mechanism

The extract below shows the Energy Transformation amendments marked in red.

‘Gain sharing mechanism’ defined

- 6.19 A “gain sharing mechanism” is a mechanism:
- (a) in an *access arrangement* which the *Authority* must apply at the next *access arrangement review* to determine an amount to be included in the target revenue for one or more of the following *access arrangement periods*; and
 - (b) which operates as set out in sections 6.20 to 6.28.

Requirement for a gain sharing mechanism

- 6.20 An *access arrangement* must contain a *gain sharing mechanism* unless the *Authority* determines that a *gain sharing mechanism* is not necessary to achieve the objective in section 6.4(a)(ii).

Objectives for gain sharing mechanism

- 6.21 A *gain sharing mechanism* must have the objective of:
- (a) achieving an equitable allocation over time between *users* and the *service provider* of innovation and efficiency gains in excess of or losses relative to efficiency and innovation benchmarks; and
 - (b) being objective, transparent, easy to administer and replicable from one *access arrangement* to the next; and
 - (c) giving the *service provider* an incentive to reduce costs or otherwise improve productivity in a way that is neutral in its effect on the timing of such initiatives; **and**
- {For example, a *service provider* should not have an artificial incentive to defer an innovation until after an access arrangement review.}
- (d) **minimising the effects of the mechanism on incentives for the implementation of *alternative options*.**
- 6.22 A *gain sharing mechanism* must be sufficiently detailed and complete to enable the *Authority* to apply the *gain sharing mechanism* at the next *access arrangement review*, including by prescribing the basis on which returns are to be determined for the purposes of section 6.23 **and the basis on which losses are to be determined for the purposes of section 6.23A.**

‘Surplus’ defined

- 6.23 A “**surplus**” has arisen to the extent that:
- (a) returns actually achieved by the *service provider* from the sale of *covered services* during the previous *access arrangement period*; exceeded:
 - (b) the level of returns from the sale of *covered services* which at the start of the *access arrangement period* was forecast to occur during the *access arrangement period*.

‘Deficit’ defined

- 6.23A A “**deficit**” has arisen to the extent that:
- (a) **returns actually achieved by the *service provider* from the sale of *covered services* during the previous *access arrangement period*; are less than:**

- (b) the level of returns from the sale of *covered services* which at the start of the *access arrangement period* was forecast to occur during the *access arrangement period*.

Prior surpluses may be retained

- 6.24 Subject to the provisions of any *investment adjustment mechanism*, the *service provider* may retain all of the *surplus* achieved in the previous *access arrangement period*, and accordingly, the *Authority* must not make an adjustment in order to recover the *surplus* achieved in the previous *access arrangement period* when approving the *price control* in a subsequent *access arrangement*.

Determining the above-benchmark surplus or below-benchmark deficit

- 6.25 Subject to section 6.26, the *Authority* must determine how much (if any) of the *surplus* results from efficiency gains or innovation by the *service provider* in excess of the *efficiency* and *innovation benchmarks* in the previous *access arrangement* (“above-benchmark surplus”) or how much of the *deficit* results from a failure of the *service provider* to meet the *efficiency* and *innovation benchmarks* in the previous *access arrangement* (“below-benchmark deficit”).

- 6.26 [Not used]

~~An above-benchmark surplus does not exist to the extent that a service provider achieved efficiency gains or innovation in excess of the efficiency and innovation benchmarks during the previous access arrangement period by failing to comply with section 11.1.~~

~~{Note: Section 11.1 requires a service provider to maintain a service standard at least equivalent to the service standard benchmarks set out in the access arrangement or access contract.}~~

Determining the increase or decrease to the target revenue

- 6.27 The *Authority* must apply the *gain sharing mechanism* to determine how much (if anything) is to be added to or removed from the *target revenue* for one or more coming *access arrangement periods* under section 6.4(a)(ii) in order to enable the *service provider* to continue to share in the benefits of the efficiency gains or innovations which gave rise to the *above-benchmark surplus* or to penalise the *service provider* for the failure to meet the *efficiency* and *innovation benchmarks* which gave rise to the *below-benchmark deficit*.
- 6.28 If the *Authority* makes a determination under section 6.27 to add or remove an amount to the *target revenue* in more than one *access arrangement period*, that determination binds the *Authority* when undertaking the *access arrangement review* at the beginning of each such *access arrangement period*.