

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

Issues paper

1 April 2021

Economic Regulation Authority

WESTERN AUSTRALIA

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Invitation to make submissions

Submissions are due by 4:00 pm WST, Tuesday 4 May 2021

The ERA is required to decide some elements of the access arrangement in advance of Western Power submitting its 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 issues paper 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: PO Box 8469, PERTH BC WA 6849

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. Introduction

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 may determine additional aspects of the access arrangement if it chooses to do so. The ERA must set out its decision on these matters in a document called the "framework and approach". To prepare the framework and approach, the ERA must publish an issues paper, draft decision and final decision, with the final decision to be published by 2 August 2021.

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. The ERA may not change its decision on matters decided in the framework and approach unless there has been a material change in circumstance, in which case it must provide reasons for the departure.

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.

1.2 Framework and approach

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.

Separate to the framework and approach, the ERA is also required to develop and publish four new guidelines:

- A demand management innovation allowance mechanism.
- The approach the ERA proposes to take to apply the multi-function asset principles.⁴
- Acceptable methods for valuing net benefits.
- Factors the ERA proposes to consider when determining whether expenditure meets the requirements of the new facilities investment test.

1.3 Indicative timetable

As required under section 4.A4(c), an indicative timetable for the framework and approach is set out in Table 1.

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.

⁴ A multi-function asset is a network asset used to provide services other than covered services.

Table 1: Indicative timetable for the framework and approach

Milestone	Indicative dates
Public consultation on the issues paper	April 2021
Draft framework and approach	May 2021
Public consultation on the draft framework and approach	June 2021
Final framework and approach	2 August 2021

Western Power is required to submit its access arrangement proposal to the ERA on 1 February 2022.

The process for the access arrangement review has been modified. The requirement for the ERA to publish a further final decision has been removed and Western Power must submit its price list for the first year of the access arrangement period after the final decision has been published.

As required under section 4.A4(c), an indicative timetable is set out in Table 2.

Table 2: Indicative timetable for the access arrangement review

Milestone	Indicative dates
Western Power submits proposal	1 February 2022.
ERA publishes proposal	February 2022
ERA publishes issues paper	March 2022
ERA holds public forum	March 2022
Public consultation closes	April 2022
Western Power may submit further access arrangement information	May 2022
ERA publishes draft decision for public consultation	September 2022
ERA holds public predetermination conference	September 2022
Western Power submits revised proposal	November 2022
Public consultation closes	December 2022
Western Power may submit further access arrangement information	January 2023
ERA publishes final decision	March 2023
Western Power submits price list for first year of access arrangement	April 2023
ERA approves price list	May 2023
Revised access arrangement commences	1 July 2023

1.4 Issues paper

The ERA has prepared this issues paper to assist interested parties to understand the regulatory requirements and process, and the significant issues the ERA must address to make its decision on the framework and approach. The issues paper sets out the ERA's preliminary views on the framework and approach that will apply for the AA5 review.

As set out above, the Access Code includes mandatory requirements for matters that must be decided in the framework and approach. The ERA may determine other aspects of the access arrangement if it chooses to do so.

The ERA published a scoping paper on 5 November 2020 seeking views from stakeholders on matters they considered should be included in the issues paper. The matters raised in those submissions have been considered in the development of this issues paper.

The ERA is undertaking the framework and approach process for the first time and the matters that must be determined are complex. There will be other matters that will need to be resolved during the access arrangement review. However, settling the mandatory items in the framework and approach will result in greater capacity to deal with other issues during the access arrangement review.

The issues paper is structured as follows:

- Regulatory requirements
- Classification of services
- Reference services
- Service standard benchmarks
- Price control
- Investment adjustment mechanism
- Gain sharing mechanism
- Service standards adjustment mechanism
- Demand management innovation allowance mechanism.

2. Regulatory requirements

The contents of the access arrangement are specified in the Access Code. The matters that must be decided in the framework and approach are shown in **bold**:⁵

- A price control, which is the formula and parameters that determine the target revenue Western Power can collect from customers during the access arrangement period. **The form of the price control must be determined in the framework and approach.**
- **One or more reference services.**
- A tariff structure statement and forecast annual changes for each tariff during the access arrangement period.⁶
- Service standard benchmarks for each reference service. **The method for setting the service standard benchmarks must be determined in the framework and approach.**
- Any adjustments that will be made to target revenue at the next access arrangement review including:
 - **An investment adjustment mechanism.**
 - **A gain share mechanism.**
 - **A service standard adjustment mechanism.**⁷
- Any trigger events that would require a review to commence earlier than planned.
- A standard access contract for each reference service.
- An applications and queuing policy (including a transfer and relocation policy).⁸
- A contributions policy.
- A multi-function asset policy.⁹

Through the Energy Transformation Strategy, the regulatory requirements for determining target revenue have been amended to include:

- Costs for the development of network constraints information incurred during AA4.
- Costs for the preparation of the initial whole of system plan incurred during AA4.
- Costs of \$115.36 million (real dollar values as at 30 June 2017) for communications equipment (such as communication access points, modems and network interface cards), information technology systems and supporting equipment and services that are required to enable advanced metering functionality. The costs will be recovered over 10 years starting from 1 July 2023.
- **A demand management innovation allowance.**

As required under section 4.28 of the Access Code, 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.

⁵ Electricity Networks Access Code 2004, section 4.A2.

⁶ This replaces the previous requirement to include a price list and pricing methods for each reference service.

⁷ The other adjustments are deferred revenue, *force majeure* and technical rule changes. Western Power's current access arrangement also includes a "D-factor".

⁸ Previously transfers and relocations were dealt with in a separate policy.

⁹ This is a new requirement. The ERA is required to publish guidelines for the multi-function asset policy.

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.

2.1 New Access Code objective

The new 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 Access Code objective was amended as part of the Energy Transformation changes on 18 September 2020. Prior to the changes the Access Code objective was as follows:

- 2.1 ... to promote the economically efficient:
 - (a) investment in; and
 - (b) operation of and use of,

networks and services of networks in Western Australia in order to promote competition in markets upstream and downstream of the networks.

Energy Policy WA's *Energy Transformation Strategy: Proposed Changes to the Electricity Networks Access Code* consultation paper stated that the shift in the purpose statement from competition to the long-term interests of consumers reflected the National Electricity Law and

that the promotion of competition was not an end, but a means to improve outcomes for electricity consumers.¹⁰

According to the consultation paper, the changes were intended to reflect the Energy Transformation Strategy's focus on "the security and reliability of electricity supplies in response to technological change, and the transition towards lower-emissions energy sources".¹¹

The Government adopted three "limbs" within the new Access Code objective.¹² The first limb promotes the long-term interests of consumers in relation to price, quality, safety and reliability and security of electricity supplies generally. The second limb is intended to better facilitate the governance of the Technical Rules, with a greater emphasis on environmental implications of supply of electricity via networks.

The third limb encompasses the environmental consequences of energy supply and consumption to account for technological changes that may drive environmental objectives and lower carbon emissions from electricity supply. The consultation paper provides an example of storage and solar at the fringes of the grid.¹³ The purpose of the third limb is "to facilitate a greater focus on environmental objectives with respect to the regulation and investment in electricity networks."¹⁴

Except for sub-clause 2.1(c), the amended Access Code objective is similar to the requirements in the *Economic Regulation Authority Act 2003* and the national electricity objective.

When considering Western Power's access arrangement, section 26(1)(b) of the ERA Act requires the ERA to have regard to:

The long-term interests of consumers in relation to the price, quality and reliability of goods and services provided in relevant markets;

The ERA has discretion as to the weight of each factor and if the factors in section 26 of the ERA Act conflict or are inconsistent with another mandatory factor in another law (e.g. the Access Code objective), the other written law prevails to the extent of the inconsistency (see section 26(3)-(4) ERA Act).

By way of comparison, the national electricity objective as stated in the National Electricity Law is:

To promote efficient investment in, and efficient operation and use of electricity services for the long term interests of consumers of electricity with respect to:

- price, quality, safety and reliability and security of supply of electricity
- the reliability, safety and security of the national electricity system.

Similar to this context, the national electricity objective was based on the view that the promotion of competition should not be an end in itself but rather a means to improve outcomes for electricity consumers.

¹⁰ Energy Policy WA, *Energy Transformation Strategy: Proposed Changes to the Electricity Networks Access Code*, p. 27.

¹¹ Ibid, p. 28.

¹² Ibid, p. 27.

¹³ Ibid, p. 28.

¹⁴ Ibid, p. 28.

The national gas objective, which has applied to the ERA's assessments of Western Australian gas pipeline access arrangements since 2010, also includes the requirement to consider the long-term interests of consumers.

2.1.1 Environmental consequences

Given the new environmental elements of section 2.1(c) that have been added to the Access Code objective, the ERA is considering how it may practically ensure consistency with the Access Code objective in the matters it determines in the framework and approach, and subsequently in the review and approval of the access arrangement.

The ERA notes that Ofgem's (the United Kingdom's gas and electricity regulator) primary objective is to protect the interests of existing and future consumers in relation to gas and electricity systems. These interests are taken as a whole, including their interests in the reduction of greenhouse gas emissions.¹⁵ Ofgem also receives social and environmental guidance from Government as set out in section 3B(4) of the *Electricity Act 1989* (UK) and section 4AB of the *Gas Act 1986* (UK).

The Australian Energy Market Commission (AEMC) has considered how to apply energy market objectives when undertaking its functions. AEMC's "Applying the Energy Market Objectives" Guide (8 July 2019) (Guide) states that:

- When using its powers, AEMC asks "whether the applicable objective would be promoted", noting that the "focus on the energy objectives is on efficient investment in, and operation and use of, electricity and gas services in the long-term interests of consumers."¹⁶
- Many other sectors and jurisdictions have objectives that focus on the long-term interests of consumers but in energy, the objectives must be applied to specific variables or "constraints" within the decision-making process.¹⁷
- The energy objectives all include a specific set of variables – for example, price, quality, safety, reliability, and security of supply – which must be objectively considered. AEMC bases its decision on how the outcome of a particular decision would affect those variables, noting that other variables may also be relevant.¹⁸
- Although climate change mitigation and adaptation are not specifically listed in the objectives, the AEMC can consider climate change to the extent that it affects the listed matters (for example, price, quality, safety).¹⁹

2.1.2 Ensuring consistency with the Access Code objective

As set out above, 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 also be consistent with the Access Code objective.

The ERA considers that the Access Code objective must be read as a whole.

¹⁵ Ofgem website, Our Powers and Duties, <https://www.ofgem.gov.uk/publications-and-updates/our-powers-and-duties>, accessed on 25 March 2021.

¹⁶ Australian Energy Market Commission, Applying the Energy Market Objectives, 8 July 2019, p. 4.

¹⁷ Ibid, p. 4.

¹⁸ Ibid, 8 July 2019, p. 7.

¹⁹ Ibid, 8 July 2019, p. 11.

As discussed above, 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.

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:

1. What is the matter being considered? (for example, form of price control or list of reference services).
2. How does the matter “relate to” or connect to price, quality, safety, reliability, and security of supply?
3. How does the matter “relate to” the safety, reliability, and security of covered networks?
4. How does the matter “relate to” “environmental consequences of energy supply and consumption”?
5. In relation to the environmental consequences specifically identified:
 - a. What effect does the matter have on greenhouse gas emissions?
 - b. What effect does the matter have on land use and biodiversity?
 - c. What effect does the matter have on encouraging energy efficiency and demand management?

6. If some or all of the limbs are not relevant to the matter, is it still consistent with the overarching Access Code objective?
7. Is there a conflict between different requirements? What is the extent of the inconsistency? Which prevails?

The ERA is seeking 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?

3. Classification of services

The classification of services is important as it identifies which services are regulated and how Western Power can recover the cost of providing those 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.

Network infrastructure facilities are defined in the *Electricity Industry Act 2004* as electricity infrastructure used, or to be used, for the purpose of transporting electricity from generators of electricity to other electricity infrastructure or to end users of electricity. It includes stand-alone power systems, or storage works, used, or to be used, as an adjunct to electricity infrastructure.²⁰

The ringfencing objectives in the Access Code prohibit Western Power from generating, purchasing or selling electricity 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 Access Code includes provisions for service providers to apply for an exemption from the ringfencing objectives. However, Western Power is specifically precluded from such an exemption.²¹

A “covered service” (or regulated service) is defined as a service provided by means of a covered network including a connection service, an entry or exit service, a network use of system service, a common service or a service ancillary to any of these services.

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, which assets are either connection assets or shared assets.

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.
- 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 does not currently have any approved excluded services.

²⁰ Section 3 of the *Electricity Industry Act 2004*.

²¹ Section 13.29 of the Access Code.

The Access Code provides for covered services to be obtained 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.
- Non-reference services are negotiated services. The Access Code enables Western Power and existing customers or new applicants to 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 list of and classification of services has not been explicitly considered in previous access arrangements.²² As the access arrangement applies only to the covered network, typically the services provided by Western Power were covered services and the only question for the access arrangement was whether they were reference or non-reference services.

However, the classification of services has become more complex with the introduction of new technologies, particularly stand-alone power systems and batteries. It has become less clear what is a covered service. It is also becoming more difficult to distinguish between a “service” and an input to a service.

Services are currently 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, standard 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:
 - Ancillary reference services (supply abolishment, capacity allocation swaps, direct load control/limitation, de-energise/re-energise, streetlight LED replacements).
 - Services under the model service level agreement.
 - 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.

The ERA’s views on how new technologies should be classified and other changes needed to the classification of services are set out below.

3.1 Multi-function assets

A new category is required for non-covered services provided by multi-function assets. As set out above, the Energy Transformation changes to the Access Code include a new category of

²² “Service” means the conveyance of electricity and other services provided by means of network infrastructure facilities and services ancillary to such services.

asset – a “multi-function asset” - which is defined as a network asset used to provide services other than covered services. The Access Code amendments for multi-function assets were intended to ensure that Western Power is not paid twice for the same asset 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 will be publishing draft 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. The Access Code requirements for multi-function assets are very similar to the AER’s shared asset guidelines. Shared assets include only assets that have been, or will be, added to the regulated asset base. The shared asset guideline is designed to encourage service providers to use underutilised regulated assets for the benefit of customers, not as an alternative to cost allocation.²³ The ERA is giving consideration to these matters.

3.2 Stand-alone power systems

The amendments to the *Electricity Industry Act 2004* enable Western Power to supply a customer via a stand-alone power system rather than a connection to the network where it is more efficient to do so. Western Power is able to do this only for its existing network customers where it is cheaper to install a stand-alone power system compared with maintaining the existing network. These customers continue to pay the same charges as though still on the network and all customers benefit from the savings that arise.

As Western Power cannot offer stand-alone power systems more generally to its customers or third parties, there is no need to create a new service. The stand-alone power system is an input, rather than a service. It should be captured under the existing reference services and included in the target revenue category.

3.3 Network-connected batteries

Batteries installed by Western Power can provide an alternative to traditional network investments such as new feeders, voltage regulators or capacitor banks to support exit, entry and bi-directional services. When used in this way, the battery is an input to Western Power’s current services. However, the same battery could also potentially enable a “storage service” for network customers.

The ringfencing provisions in the Access Code would treat a battery installed by Western Power as part of the network business and would not require it to be ringfenced.

Users are likely to want to connect their own batteries to the network (via an exit/entry or bi-directional service to the network) for their own (or their customers’) storage needs.

To ensure a level playing field for third parties that connect batteries to the network, the ERA will consider whether services provided by batteries owned by Western Power could be classified as excluded services. As noted above, 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.

²³ Australian Energy Regulator, Explanatory statement – Final electricity distribution service classification guideline, September 2018, p. 24.

If this approach were to be adopted, the costs of the batteries would be excluded from the regulated asset base and any network support service provided to the regulated business could be charged to the regulated business on an arms-length basis.

The ERA is seeking stakeholder feedback on the proposed approach to the classification of services including any views on the classification of batteries.

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 network services customers 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 requirement to include eligibility criteria, structure and charging parameters and a description of the approach to setting each tariff is optional. It is a mandatory requirement 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.

The ERA considers this requires determining the eligibility criteria and the structure and charging parameters for each reference service in the framework and approach.

Settling the reference services, eligibility criteria and the structure and charging parameters in the framework and approach will provide Western Power with clarity about the tariffs it will need to develop in its access arrangement proposal. The development of the tariffs can then 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.

Western Power's current reference services are set out in Appendix E of its access arrangement.²⁴ Appendix E includes the eligibility criteria for each reference service. The current charging structures are set out in the annual price list and price list information.²⁵

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 services of the network. They can also affect the environmental consequences of energy supply (particularly in relation to a customer with distributed generation) and the encouragement of energy efficiency and demand management.

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

²⁴ <https://www.erawa.com.au/cproot/20419/2/ERA-Approved---Appendix-E---Reference-Services.pdf>

²⁵ [Annual Price Lists for Network Charges - Economic Regulation Authority Western Australia \(erawa.com.au\)](#)

In the National Electricity Market (NEM), most network services are specified. The Australian Energy Regulator (AER) only makes a negotiated service classification 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 its observation that, in practice, this condition rarely occurs.²⁶

The ERA considers that the current list of reference services should be retained and developed further. Changes required are discussed below.

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.

The entry reference services and capacity allocation swap services will need to be amended to reflect this requirement.

4.2 Exit and bi-directional services

Most of the residential and commercial reference services include an exit and bi-directional version. Combining the exit and bi-directional service would reduce the number of services. However, the service provided to a customer who imports energy from the network and exports to the network is quite different from a customer who only imports energy from the network. Exporting energy to the network places different demands on the network compared with importing energy from the network. In addition, the load profile for a customer that can supply some of its own energy will differ from a customer who draws all of its energy from the network. Reference services should be tailored to the service that is provided.

Care also needs to be taken before expanding the existing bi-directional services to include connections with new technologies, in particular batteries and electric vehicles. The service requirements for a battery connected to the network or an electric vehicle charging point will 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 enables efficient operation and use of the network.

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.²⁷ The current time of use periods require review to ensure they properly reflect forecast demand patterns for AA5.

²⁶ Australian Energy Regulator, Final Guideline Electricity Distribution Service Classification Guideline, September 2018, p. 12.

²⁷ For example, expenditure required to deal with over-voltage.

4.4 New services arising from the Energy Transformation reforms

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 leaving them to *ad hoc* development.

4.5 Metering

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

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.
- The Metering Code has been amended to require Western Power to upgrade the contestable metering fleet to provide the data required for five-minute interval readings and weekly settlement 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.

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. The current reference service to facilitate distributed generation or other non-network solutions could then be used.

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). The ERA considers that the direct load control and load limitation services should be retained and amended to include these requirements.

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

4.8 Other new services required by users

The Energy Transformation amendments to the Access Code included a requirement that stakeholders requesting new reference services must include information supporting the request.

Stakeholders proposing new reference services should provide as much information as they are able to assist the ERA to determine whether the service is likely to be sought by a significant number of network services customers or a substantial proportion of the network services market. Submissions should include a detailed description of the service sought, eligibility criteria and charging parameters.

The ERA is seeking stakeholder feedback on the current reference services, changes the ERA has raised and any further modifications or new reference services required.

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, that is, the transmission network available to users that are directly connected. 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 are 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.²⁸
 - *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.

Western Power prepares annual service standard performance reports that are published on the ERA’s website. Charts setting out performance since 2008/09 are included in the 2019/20 report.

In 2019/20, Western Power did not meet two of its service standard benchmarks. Western Power submitted that factors affecting its performance included:

²⁸ 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.

- an increase in the number of severe weather events
- emergency outages to remove hazards
- an increase in total fire ban days
- wind-borne debris, birds and vegetation
- equipment faults.

Western Power considered that the 2019/20 period highlighted the importance of the availability of network services as well as the need to incorporate the effects of climate change in the definition and evaluation of network services.

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.

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.

However, 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. For example, any forecast improvements in SAIDI and SAIFI due to the installation of stand-alone power systems.

The ERA considers some amendments are necessary to the service standards and exclusions.

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.

Reliability for transmission connected customers on reference exit services is directly captured by the loss of supply event frequency and average outage service standards.

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 it sought to do so. 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. The ERA proposes that a new service standard benchmark should be developed to capture this.

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. The ERA proposes 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.

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.

5.2 Exclusions

The distribution service standard exclusions should be reviewed as follows:

- As discussed above, the distribution service standards should not exclude faults on the transmission network. Western Power has responsibility for the transmission network. If its customers on the distribution network experience an interruption that was caused by an unplanned outage on the transmission network, the interruption should be included in the distribution SAIDI and SAIFI.
- An exclusion for *force majeure* is not required as it is dealt with adequately under the calculation of major event days. Western Power notes that total fire bans and the requirements of emergency services can prevent it from entering an area to restore supply. The ERA proposes 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.
- Planned outages should continue to be excluded. However, they are still a significant disruption to customers. The ERA proposes introducing increased reporting requirements to provide better information on the level and reason for planned outages.

The ERA is seeking stakeholder feedback on the proposed changes to the method for setting service standard benchmarks.

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:²⁹³⁰

- 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.

²⁹ Section 6.4 of the Access Code.

³⁰ Examples of different forms of price control include a revenue cap that controls total revenue, average revenue cap or revenue yield 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.

The current 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.

Adjusting revenue for over or under recovery of forecast revenue during the access arrangement period, as would occur under a standard revenue cap, results in users facing distorted incentives to manage demand. Any steps they take to reduce demand will be reflected in future through higher charges which may lead to users seeking non-network alternatives. Alternatively, reductions in prices due to over-forecasting revenue may encourage users to increase usage where this is not efficient to do so.

Exposing Western Power to demand risk, which could be increases or reductions in demand compared to forecast, provides stronger 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 ERA proposes the current form of price control should apply for the AA5 period with some modifications as set out below.

6.1 New pricing requirements

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 7.3H(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.

The requirement to avoid price shocks has been removed and there is a new requirement under section 7.3H(c) to minimise distortions to price signals for efficient usage. 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 enable consultation during the access arrangement review on the price path for each reference tariff.

Taking account of the new requirements outlined above, the ERA considers separate price controls for the transmission and distribution network and the side constraint may be no longer required. The ERA will consider whether there is merit in a single price control and removing the side constraint provisions.

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 ERA is seeking stakeholder feedback on the proposed amendments to the form of the price control.

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 placed demand risk on customers rather than Western Power. Consequently, the expenditure was included in the adjustment mechanism to ensure Western Power did not have windfall gains or losses from changes in growth and customer demand.

However, including expenditure for growth and customer demand in the investment adjustment mechanism is inconsistent with the price control that has applied since 2019/20, which places demand risk on Western Power. 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.

The ERA is seeking stakeholder feedback on the proposed amendments to the investment adjustment mechanism.

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. 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 *surplus* or to penalise the *service provider* for the failure to meet the *efficiency and innovation benchmarks* which gave rise to the 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*.

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.

As set out below, some amendments to the gain sharing mechanism are required due to Access Code amendments.

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.

8.2 The mechanism must be symmetrical

The current mechanism is not symmetrical. That is, a net overspend against forecast is not 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.

8.3 Alternative options

The Access Code amendments also include a requirement to minimise the effects of the 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.

8.4 Other adjustments

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.

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. The ERA considers this argument has merit and proposes to remove the exclusion of uncontrollable costs from the gain share mechanism.

The ERA is seeking stakeholder feedback on the proposed changes to the gain share mechanism.

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 issues paper.

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 only made 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.³¹

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.

The ERA proposes to retain the current mechanism with the following modifications.

9.1 Circuit availability

As discussed in the section on service standard benchmarks, the ERA has proposed amendments to the service standard benchmarks that would provide a better measure of the value represented by each reference service at the reference tariff and that circuit availability can be removed. The amendments are to:

- Include any interruptions to distribution customers caused by Western Power unplanned outages on the transmission network in SAIDI and SAIFI.
- Develop a new measure to capture the frequency and/or quantity of energy that a generator would have been dispatched by AEMO but could not be due to a planned or unplanned network outage.

The AA5 service standard targets for SAIDI and SAIFI will need to be calculated using adjusted historical data with transmission outages included.

The ERA proposes that the incentive rates for the new measure to capture the frequency and/or quantity of energy that a generator would have been dispatched by AEMO but could not be due to a planned or unplanned network outage will be based on the higher energy price or other market costs resulting from any generation required to run out of merit. This will increase incentives for Western Power to make the network available at the times and locations it is valued most.

³¹ 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.

9.2 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. The ERA proposes to amend the calculation of the incentive rates to use the revenue attributable to the customers the transmission service standards apply to.

9.3 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 AER results available 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.

9.4 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 it will not be penalised twice.

9.5 Caps on overall rewards and penalties

Currently the sum of the rewards and penalties for the transmission network are capped at 1 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 1 per cent of total distribution revenue and the sum of the penalties is capped at 2.5 per cent. The ERA proposes the caps should be symmetrical, as they are for transmission, and set at 1 per cent.

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

The ERA is seeking stakeholder views on the proposed changes to the service standard adjustment mechanism.

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 Taskforce stated:³²

Western Power has minimal incentive under the existing regulatory framework to conduct research and development on the network. All capital and non-capital investments must meet certain expenditure criteria, which in practice excludes any costs for solutions that are not yet commercially viable. On an extremely limited basis, there is merit in providing Western Power with a mechanism for recovering costs for approved small-scale research and development initiatives, to incentivise progress towards innovative solutions that may deliver lower cost outcomes for customers.

The ERA is required to determine the demand management innovation allowance mechanism as part of the framework and approach.³³

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.”³⁴

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.”³⁵

The ERA is required to determine the maximum amount of the allowance for an access arrangement period.³⁶ 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.³⁷

The allowance must be calculated for each pricing year in the access arrangement period.³⁸ 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.³⁹

³² Energy Transformation Taskforce, *Energy Transformation Strategy: Proposed Changes to the Electricity Networks Access Code – Consultation Paper*, Page 20, May 2020.

³³ Section 4.A2(d) of the Access Code.

³⁴ Section 6.32C of the Access Code.

³⁵ Section 6.32B of the Access Code.

³⁶ Section 6.32E of the Access Code.

³⁷ Section 6.32G of the Access Code.

³⁸ Section 6.32E of the Access Code.

³⁹ Section 6.32F of the Access Code.

The requirements for projects eligible for the allowance are:⁴⁰

- 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 is not available from any other source.

In addition to setting out the demand management innovation allowance mechanism, the guidelines must include the following information:⁴¹

- 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.

Introducing an explicit *ex ante* allowance for research and development is a significant departure from the current regime, which only allows the recovery of efficient costs of providing network services to be recovered from users.

However, 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.

⁴⁰ Section 6.32G(b) and (c) of the Access Code.

⁴¹ Section 6.32J of the Access Code.

The ERA will consider whether the allowance for Western Power should be set 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.

The ERA is developing the detailed guidelines that will set out how the mechanism will be applied and the evidence and processes Western Power will need to follow to claim the allowance for eligible projects. The draft guidelines will be published for consultation.

The ERA is seeking stakeholder views on the proposed level of the demand management innovation allowance.