

# Excluded service determination for services provided by batteries owned by Western Power

Determination

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Economic Regulation Authority

WESTERN AUSTRALIA

D239882

## **Economic Regulation Authority**

Level 4, Albert Facey House

469 Wellington Street, Perth WA 6000

**Telephone** 08 6557 7900

**Email** [info@erawa.com.au](mailto:info@erawa.com.au)

**Website** [www.erawa.com.au](http://www.erawa.com.au)

This document can also be made available in alternative formats on request.

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# 1. Determination

On 9 August 2021, the Economic Regulation Authority published its final decision on the framework and approach for Western Power's fifth access arrangement review. One of the matters required to be considered in the framework and approach was the 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.

The Electricity Networks Access Code 2004 is premised on the regulation of natural monopoly network services, rather than services that can be provided by a competitive market. It includes provisions for making a covered service that is contestable an "excluded service".

Under section 6.33 of the Access Code, the ERA can determine whether a covered service should be classified as an excluded service. A service can be classified as an excluded service providing:

- The supply of the service is subject to effective competition; and
- The cost of the service can be excluded from consideration for price control purposes without departing from the Access Code objective.

Developments in technology are increasingly enabling storage services provided by batteries to provide an alternative to conventional network investments to support network services. Storage can also enable users to manage their energy demand and costs and to provide energy and essential services to the Wholesale Electricity Market. Realising full value from energy storage devices requires their deployment to provide multiple energy services across the energy supply chain. This is commonly referred to as "value stacking".

Under the Access Code, storage services used to provide network support can be classified as covered services. Storage services other than network support (including leasing out spare capacity or offering customers access to a shared storage service) are not covered services.

As indicated in the framework and approach decision, on 10 September 2021 the ERA published a consultation paper on whether network support services provided by batteries owned by Western Power should be classified as an excluded service.

Submissions were received from:

- AGL Perth Energy
- Alinta Energy
- Australian Energy Council
- Synergy
- Western Power.

The ERA considers that network support services provided by batteries are contestable and meet the requirements for an excluded service. Under this approach, the capital cost of the battery sits outside the regulated business and is not included in Western Power's regulated asset base. The efficient costs of any network support service provided to the regulated network business by a Western Power owned battery can be charged to the regulated business and this operational expenditure is assessed by the ERA as part of its determination of the efficient costs of providing covered services.

The ERA considers there is already evidence of effective competition in the supply of battery services. New requirements in the Access Code for Western Power to produce an annual

network opportunity map and associated information will facilitate co-optimisation between the multiple value streams that can be met through energy storage.

An excluded service approach better ensures a level playing field for all storage service providers to provide network support services and enables the industry to develop the best configuration of value stacking and ownership models.

The treatment of these services as an excluded service will, in the ERA's view, promote investment in these technologies and provide a more transparent identification of the efficient cost of the relevant network services.

This should lead to greater availability and lower costs for network support services, which is consistent with the Access Code objective to promote the efficient investment in, and efficient operation and use of, services of networks for the long-term interests of consumers.

## 2. Reasons

### 2.1 Regulatory requirements

Western Power's electricity network is a natural monopoly. The economies of scale of the network of poles and wires means that network services are most efficiently provided by a single supplier. To protect consumers from the risks of monopoly rent-seeking behaviour, such as overcharging or poor service, Western Power's network is regulated under the Access Code.

Essentially, Western Power's network provides a transportation service by conveying electricity from electricity producers to electricity consumers. This includes entry, exit and bi-directional services together with the connection, use of system, common and ancillary services to support them. Collectively, these are regarded as covered services (or regulated services) and are regulated under the access arrangement.

In contrast, the generation and retail elements of the electricity supply chain are not a natural monopoly. They are not subject to economic regulation on the basis that competition between different suppliers should deliver efficient outcomes to consumers.

The emergence of technology that enables electricity to be stored creates a new dimension to the energy supply chain. Storage can provide an alternative to conventional network investments such as new feeders, voltage regulators or capacitor banks to support exit, entry and bi-directional network services. Storage can also enable users to manage their energy demand and costs and to provide energy and essential services to the Wholesale Electricity Market.

Storage devices can provide different services simultaneously or switch the service provided very quickly. Realising full value from energy storage devices requires their deployment to provide multiple energy services across the energy supply chain. This is commonly referred to as "value stacking". Consequently, storage does not fit neatly within the current boundaries of the regulated monopoly network and competitive generation and retail components of the energy supply chain.

A network service provider could provide network support services from its own fleet of batteries or by seeking services from batteries owned by third party providers.

Under the Access Code, storage used to provide network support services can be treated as common or ancillary covered services. Storage services other than network support (including leasing out spare capacity or offering customers access to a shared storage service) are not covered services.

The Access Code does not restrict Western Power from providing non-covered storage services but it can only recover the efficient costs for the provision of covered services through regulated network charges.<sup>1</sup>

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<sup>1</sup> In the National Electricity Market (NEM), ringfencing requirements restrict distribution network service providers to only providing distribution services. Distribution network service providers cannot provide non-distribution services (including both the supply of excess storage capacity to third parties and the provision of storage services directly to consumers) unless they obtain a ringfencing waiver from the Australian Energy Regulator. The ringfencing provisions in the Access Code do not restrict Western Power from providing non-covered storage services.

However, as the Access Code is premised on regulation of natural monopoly network services and not services that can be provided by a competitive market, it includes provisions for making a covered service that is contestable an “excluded service”.

Under an excluded service approach, none of the cost of a battery owned by Western Power would be included in the regulated asset base. The efficient costs of any network support service provided by a battery owned by Western Power to the regulated business would be charged to the regulated business as a non-capital cost.

The ability for the ERA to make an excluded service determination is set out in section 6.33 of the Access Code:

6.33 The Authority may from time to time make and publish a determination (which subject to section 6.37 has effect for a specified covered network) of which services being provided by means of the covered network are excluded services.

As set out in section 1.3 of the Access Code, an excluded service must meet both of the following criteria:

- The supply of the service is subject to effective competition.
- The cost of the service is able to be excluded from consideration for price control purposes without departing from the Code objective.

Each of these criteria is considered below.

## 2.2 Effective competition

Effective competition is not defined in the *Electricity Industry Act 2004* or Access Code but is generally understood to mean a level of workable competition in a market. Factors for consideration include:<sup>2</sup>

- Are there competitors active in the market, holding a reasonably sustainable market position?
- Are barriers to entry sufficiently low and will the use of market power be competed away in the long run, so that any degree of market power is only transitory?
- Over the long run, are prices determined by underlying costs rather than the existence of market power (noting that a party may hold a degree of market power from time to time)?

The consultation paper invited submissions on the ERA’s view that sufficient third-party suppliers are available to ensure there is a competitive market for the supply of storage services. Submissions supported this view.

Western Power confirmed that it had recently sought storage services and received interest from the market. It considered that requests of this type are likely to increase in the future, given the new requirements in the Access Code and that these new processes will likely see the market for storage services grow.

Western Power published a Distribution Storage Opportunities Information Paper in December 2020 indicating that it was likely to seek approximately 10 to 15 small storage systems (between 100kW/400kWh and 300kW/1,200 kWh) each year. The paper also

<sup>2</sup> Application by Chime Communications Pty Ltd (No 2) [2009]

identified six locations that Western Power considered might require larger storage systems (ranging between 5MW/15 MWh and 21MW/63MWh) by 2023.

From 1 October 2021, Western Power is required to publish an annual alternative options strategy and network opportunities map setting out, among other things, any network constraints forecast over the next five years. The network opportunity map and alternative options strategy will provide greater information about Western Power's future network requirements on an annual basis and increase the opportunity for third parties to provide storage services to Western Power.

AGL Perth Energy agreed with the ERA's view that there is effective competition. It noted that several companies, including AGL, offer battery technology solutions across the Australian market and specifically within Western Australia and that a substantial number of installations had been installed and are operating.

AGL considered that the supply of battery services was not an area of special expertise for Western Power and that Western Power did not have inherent skills or capabilities in storage technology that exceeded those of third-party storage providers. AGL considered that, due to the number of grid-scale batteries installed and operating within Australia, or slated to be developed, there should be no roadblocks for Western Power's tendering process and Western Power should receive competitive proposals from experienced developers offering reputable technology.

However, AGL considered that Western Power could be perceived as having a commercial advantage in that it owns potentially suitable sites on the land occupied by its electricity sub-stations and that Western Power's inherent knowledge of the state of its system and ability to plan its own developments gave it a head-start position compared to external businesses.

The ERA expects the network opportunity map and Alternative Options Strategy, if effectively undertaken, will provide the information needed to enable third parties to submit competitive tenders and that Western Power will ensure that sites owned by it can be used by third party tenderers if that is the most efficient option.

The Australian Energy Council also considered that the battery storage market was now well established with sufficient suppliers and potential asset owners to ensure there was a competitive market. It submitted that Western Power could not be considered uniquely positioned to provide battery services and that Western Power is not required to fill a gap in the market. The Australian Energy Council considered that Western Power's ownership of network connected batteries without any ringfencing or the batteries being classified as an excluded service would itself create a barrier to entry for third-party suppliers.

The requirement in the framework and approach for Western Power to include reference services for network connected batteries in its access arrangement will further facilitate competition in the market for storage services as it better ensures third-party suppliers can connect batteries to the network.

At this stage the storage market does not appear to have economic barriers to entry and is best left unregulated to allow the market to evolve. As storage services become, as predicted, significant components of network infrastructure, then economies of scope may develop in the provision of network services from battery storage – in which case, there may be an efficiency argument for a component of the capital cost of a battery to be included in Western Power's regulated asset base. However, currently no such economy of scope is apparent.

Rivalry between storage service suppliers will enable the lowest cost to be discovered by the market. This is further enhanced by the processes under the Access Code to ensure Western



Power can only recover efficient costs and the market power mitigation measures in the Wholesale Electricity Market to ensure that, over the long run, prices for services provided by batteries are determined by underlying costs.

## 2.3 Exclusion from price control

To meet the requirements for an excluded service, the revenue from services provided by, and the cost of, a battery must be able to be excluded from Western Power's price control without departing from the Access Code objective.

The ERA considers the cost of batteries owned by Western Power and revenue earned for any services provided by them can be identified and separated from Western Power's other costs and revenues.

As discussed above, realising full value from energy storage devices requires their deployment to provide multiple energy services, including network support services and unregulated services. If an excluded service approach is not adopted, Western Power would need to allocate the initial capital cost between network support services and unregulated services, as only the efficient costs of providing network support services can be included in the regulated asset base.

There may be no obvious or straightforward method to allocate the capital cost of the battery between network support services and unregulated services. It is also likely that the proportion of the battery used to provide network support services would change from year to year reflecting changing network requirements. This could result in future cost allocation issues between covered and unregulated services and perceptions that the network service provider has an unfair advantage due to the capital costs of batteries being included in its regulated asset base.

Under an excluded service approach, it would not be necessary to determine a capital value based on an initial estimated apportionment of the use of the battery between covered and unregulated services. The costs of any network support service provided to the regulated business would be charged to the regulated business as an annual non-capital cost. This would better enable the charge to be adjusted to reflect changes in use of the battery to provide network support services.

The cost of any network support service charged to the regulated business will be assessed by the ERA as part of its determination of the efficient costs of providing covered services.

The consultation paper invited submissions on the ERA's view that the cost of batteries owned by Western Power and revenue earned for any services provided by them can be identified and separated from Western Power's other costs and revenues and that adopting an excluded service approach would provide a more transparent process to identify the efficient costs of network support services and promote efficient investment in, and efficient operation and use of, services of networks. Submissions supported this view.

Western Power stated that it would be able to establish appropriate systems and processes to exclude the cost of batteries from its regulated asset base and charge an efficient annual non-capital cost for network support services instead.

As noted in Western Power's submission, the capital expenditure forecasts approved at the last access arrangement review included forecast expenditure for batteries to be installed in Perenjori and Kalbarri. The excluded service determination will apply for the next access

arrangement period. The treatment of historical expenditure incurred on the Kalbarri and Perenjori batteries will be considered as part of the access arrangement review.