Government of **Western Australia**
Department of **Treasury**

Our ref : 00481072
Enquiries : Zaeen Khan
Telephone : 6551 4661

Ms Jenness Gardner
Chief Executive Officer
Economic Regulation Authority
PO Box 8469
PERTH BC WA 6849

Dear Ms Gardner

SUBMISSION ON WESTERN POWER'S DRAFT AA4 DECISION

The Department of Treasury's Public Utilities Office welcomes the opportunity to provide a submission on the Economic Regulation Authority's (ERA) draft decision on Western Power's Fourth Access Arrangement (AA4).

The Public Utilities Office is broadly supportive of the draft AA4 decision. However, there are two specific areas where we believe further consideration is required for the final decision. They relate to the draft AA4 decision seeking to remove:

- the revenue over and under-recovery correction factor for AA4, shifting the demand risk to Western Power; and
- Western Power's proposed capital expenditure to invest in the communications infrastructure to facilitate the deployment of advanced meters.

The Public Utilities Office is of the view there is a risk that Western Power will not be able to recover the Tariff Equalisation Contribution (TEC) as a result of the ERA proposing to remove the over- and under-recovery correction factor.

While any decision on the level of demand-side risk to be shared between network customers and Western Power is a matter for the ERA, this should not impact on the ability for Western Power to meet its regulatory obligations in recovering the TEC from its distribution reference tariffs.

The Public Utilities Office is also supportive of the ERA's draft decision to allow Western Power to commence the deployment of advanced meters as part of AA4.

Level 23, David Malcolm Justice Centre, 28 Barrack Street, Perth, Western Australia 6000
Locked Bag 11, Cloisters Square, Western Australia 6850
Telephone (08) 6551 2777
www.treasury.wa.gov.au

Advanced metering infrastructure is a fundamental enabling technology to facilitate the development of smarter electricity networks. However, for the benefits of advanced meters to be fully realised, a communications network linking the meters to the data management systems is essential. Consequently, Western Power should be allowed to recover efficient costs of the communications infrastructure as part of its approved expenditure allowance for the deployment of the advanced meters.

The attached submission provides further details on these two issues.

Yours sincerely

[redacted]

Michael Barnes
UNDER TREASURER
14 JUN 2018

Att.

Western Power's Draft Fourth Access Arrangement

Submission to the Economic Regulation Authority

14 June 2018

TRIM: 00478479

1. Introduction

There are two areas where the Public Utilities Office considers that the Economic Regulation Authority (ERA) should consider further evidence before making a final decision on Western Power's Fourth Access Arrangement (AA4).

These two areas relate to the draft AA4 decision seeking to remove:

- the revenue over and under-recovery correction factor for AA4, shifting the demand risk to Western Power; and
- Western Power's proposed capital expenditure to invest in the communications infrastructure to facilitate the deployment of advanced meters.

2. Tariff Equalisation Contribution

The Uniform Tariff Policy is a Government policy that requires that the retail tariff for the sale of electricity be the same regardless of whether a customer lives in the metropolitan area or in the regional areas of Western Australia.

To recover the cost of this policy, section 6.37A of the *Electricity Network Access Code 2004* (Access Code) provides for target revenue to include an amount of TEC, which comprises an amount levied on users of the Western Power network to finance amounts paid to Horizon Power for the provision of electricity services in areas not serviced by the Western Power network.[1]

In the draft AA4 decision, the ERA noted that as the price formula includes a separate factor for the TEC, it is not necessary for the ERA to include the cost in its determination of target revenue. However, the ERA recognised that variations in the TEC from year to year causes variations in customer bills. As such, the section in the draft AA4 decision on target revenue and the price path dealt with these issues.

[1] Section 6.37A of the Access Code relates to where Western Power will be required to pay a tariff equalisation contribution during an access arrangement period, then an amount may be added to the target revenue for the covered network for the access arrangement period.

2.1 Annual variation in TEC

The TEC makes up a large component of Western Power's fixed costs. As shown in Table 2.1, an amount of $167 million was gazetted for the 2017/18 year, which is equivalent to around 15% of Western Power's proposed operating expenditure for distribution services. It can also be seen from Table 2.1 that the amount of the TEC also varies substantially from year to year.

Table 2.1: Western Power's estimated TEC contribution, total business $ nominal (millions)

	2017/18	2018/19	2019/20	2020/21	2021/22
TEC	167.0	198.0	162.0	157.0	161.0

(1) Western Australian Government Gazette 29 May 2018

Western Power proposed as part of its AA4 submission that it recover the TEC entirely from the fixed components of network tariffs. Stakeholders were in general agreement that given the TEC is an unavoidable cost that it would be appropriate to recover it from fixed costs. However, the ERA noted that following discussions with the Department of Treasury, Western Power decided not to proceed with the proposed change to the TEC for AA4. Western Power considered that as this change was administrative in nature, it could be revisited in the future following any market reforms.

The ERA considered that given the fixed nature of the TEC, recovering it via fixed charges would be consistent with section 7.6 of the Access Code.[2] The current practice of including the TEC in variable tariff components contributes to the need for adjustments to tariffs for under or over recovery of revenue for previous periods.

Section 7.12 of the Access Code provides for the TEC to be recovered from users of reference services through one or more reference tariffs.[3] The recovery must apply only to users of reference services provided in respect of exit points on the distribution system, be equitable in its effect between users and be consistent with the Access Code objective. The relevant users for the allocation of TEC in the case of distribution exit points are retailers.

The ERA noted that recovering the TEC through variable charge components compounds the uncertainty as it will generally be necessary to adjust prices for under or over recovery in the previous period. Developing a fixed charge based on an equitable allocation between retailers may provide a more predictable and transparent charge for users. Naturally, retailers as users would still be able to determine how they recovered these costs in their retail tariffs.

The ERA's draft AA4 decision to remove the correction factor for under or over-recovery of target revenue for prior periods has the potential to exacerbate the risk to Western Power of not recovering the TEC from its network customers. This could be of particular concern where tariffs are based on the demand forecasts approved with the access arrangement decision and the subsequent actual demand is lower than these forecasts.

---

2 Section 7.6 of the Access Code relates to the fixed and variable components that make up the tariff structure for a reference service.

3 Section 7.12 of the Access Code relates to where an amount is added to the target revenue under section 6.37A and it is intended to be recovered from users of reference services through one or more reference tariffs, the conditions that must be met include the tariff equalisation contributions as a tariff component for distribution network users.

The Public Utilities Office considers that the recovery of TEC through a fixed charge would be problematic as the amount to be recovered varies from year to year. As noted above, while retailers are able to choose how the TEC is recovered from customers, where it is just passed through as part of a fixed component, it has the potential to distort tariffs and provide inappropriate pricing signals.

2.2 Alternative option to recover TEC

The Public Utilities Office suggests that the ERA and Western Power explore alternate options for ensuring recovery of the TEC that would be compliant with the requirements of the Access Code. One option would be to have a dual revenue cap and price cap approach to recover allowable revenue. The revenue cap component could be set equivalent to the forecast TEC and the price cap component could incorporate the remaining revenue.

3. Advanced Metering Infrastructure

The deployment of advanced meters is a fundamental enabler for the future-proofing of the network. In light of recent market changes, in particular the wide-scale uptake of residential roof top solar photovoltaic (PV) systems, the requirement for better and more accurate network and market information is becoming increasingly critical. This information will only become available where advanced metering infrastructure is deployed in conjunction with a corresponding communications backbone that allows access to more granular data on a continuous basis.

The simultaneous deployment of advanced meters with the appropriate communications modules installed would likely be the least cost solution. Primarily, as a second visit to the metering installation to retrospectively install a communications module is not required. The deployment of advanced meters should also occur as quickly as possible and prior to the wide-scale installation of residential battery storage systems.

In addition to the network and market benefits that are enabled by advanced meters, there are other market benefits including:

- better pricing signals through more cost reflective pricing structures;
- customers have better information about when and how much electricity they consume;
- Western Power has greater access to information about its network; and
- as a result of the proposed carve out of metering services from reference services, there is the potential for the development of bespoke non-reference metering services for new and innovative products and services.

The whole of market benefits to the electricity supply chain that can be achieved through the deployment of advanced metering infrastructure is substantial. Over time, as the stock of these meters increases, the system-wide operational savings that this infrastructure enables has the potential to place downward pressure on prices to the benefit of consumers.

3.1 Benefits of advanced metering infrastructure

3.1.1 Better pricing structures

The introduction of advanced metering infrastructure would allow Western Power and retailers to develop and introduce more cost reflective tariff structures that better align to both the cost structures of the businesses and the utilisation of the network.

For example, Horizon Power has recently developed the "My Power" tariff structure as a trial to more accurately align the prices it charges customers with its overall cost structure. MyPower utilises the contract maximum demand of a customer in conjunction with an advanced meter to change the structure of the retail tariff.

The pricing structure allows Horizon Power's revenue to be better aligned with its cost structure, particularly in light of the impacts of disruptive technologies such as rooftop solar PV systems and, in future, electric vehicle charging. Furthermore, this structure allows for maximum flexibility to adapt to future changes in cost structure – whatever they may be.

This pricing approach has traditionally been used for larger customers. The contract maximum demand approach has been modified for small use customers (mass market), using a tiered approach where capacity is packaged into plans similar to a telecommunications product. An advanced meter is required to enable this type of tariff to be rolled out to small use customers.

Advanced metering infrastructure also has the potential to enable retailers and distribution businesses to more easily and efficiently offer a range of new tariff offerings to consumers at scale. New services that could potentially be offered through the deployment of advanced meters include: pre-payment packages for customers who wish to better manage their bills; and energy management services to improve customer energy efficiency.

Other potential tariff offerings that could be provided using smart meters that have advanced programming and/or direct load control capabilities include:

- appliance monitoring, including medical equipment and home security system monitoring;
- monitoring of distributed energy resources and the ability to fine-tune configuration of settings and/or operation in reference to tariff offerings to respond to the needs of the broader electricity system;
- enablement of energy management services by third parties, distinct from aggregation services or demand response procured by the network; and
- flexible payments for embedded generation – reflecting time of supply, seasonal and/or prevailing weather conditions.

3.1.2 Better information for consumers

The deployment of advanced meters would also enable consumers to choose the information and services enabled by their advanced meter.

Advanced metering technology is a tool that can help consumers monitor, manage and adjust their electricity consumption and, importantly, capture the value of doing so, if they so choose. Like a mobile phone or a pay TV box, meters are the physical infrastructure that enables

consumers to use a service that they value. For example, the information from advanced meters provides consumers with access to more detailed and timely data about what electricity they consume and when and the associated costs of that consumption pattern. The meters also provide consumers with more accurate billing and less estimated meter readings.

The increased availability of advanced meters in the future has the potential to enable consumers to better understand their electricity consumption and, if they choose, to take up products and services that better reflect their needs and preferences. Depending on what price structures are offered by their retailer, a consumer with an advanced meter could choose to remain on a flat retail price or could choose from a range of other offers from its retailer.

3.1.3 Better operation of the network

The most basic operational savings from an advanced meter relate to the reduced need to send an employee in a vehicle to a customer site to read the meter. Distribution network businesses with advanced meters deployed have saved several millions of dollars through these savings.[4] Similarly, Western Power has estimated the net present value of avoided cost of manual meter reading at $33.3 (2017 dollars), over the fifteen year asset life of these meters.

Advanced metering infrastructure in respect of distribution network businesses is also providing opportunities for the network to integrate the metering streams of data with other systems to improve business efficiencies. For example, the integration of smart meter data with outage management systems enables improved outage management and restoration services.

Where the status of the distribution network can be viewed in near-real time, utility restoration crews are able to quickly identify outages, resolve problems on their first visit, reduce repeat calls from customers, and consequently improve customer satisfaction. This has the potential to reduce the operational expenditure of the business over time through reduced maintenance costs and employee hours.

Similarly, network businesses are also integrating advanced metering infrastructure with Distribution Management Systems for distribution automation and circuit reconfiguration, Volt/VAR management, device monitoring, and predictive asset maintenance (including the identification of faulty equipment that can be a safety risk) along the distribution network. These types of integrated distribution management systems can also help the network business manage the impacts of solar PV systems on network voltage on clear sunny days.

[4] For the Victorian deployment of advanced meters, Deloitte estimated the net present value of the avoided cost of manual meter reading at $154 million 2008 dollars), over the twenty-year period of 2008-2028 (Deloitte, August 2001, Final Report, *Department of Treasury and Finance – Advanced metering infrastructure cost benefit analysis*, p.59.)

3.1.4 Innovative products and services

The Public Utilities Office considers that the ERA's draft AA4 decision to separate metering services from network reference services has the potential to lead to further innovation in the types of products and services available in the market. For this innovation to occur, a transparent open access regime would provide a platform from which market participants are able to negotiate for those services of value to them, at a cost they are willing to pay.

For example, the ability for the Australian Energy Market Operator (AEMO) to negotiate access to metering data streams on contractual terms would be extremely beneficial. Access to this information would enable the system operator to monitor behind-the-meter distributed energy resources and report changes in status within a 30 minute trading interval. Access to more granular metering data of generation resources located behind-the-meter would also allow AEMO to better forecast the scheduled generation requirements for pre-dispatch and short term projected assessment of system adequacy to maintain a secure and reliable operating state for the power system.

Furthermore, being able to obtain this information during a single trading interval would equip AEMO with better tools to manage the power system when weather changes affect the generation profile of behind-the-meter capacity. This has the potential to lead to more efficient and cost effective procurement of ancillary services (for example, spinning reserve and frequency response) in the long term interests of consumers with respect to price.

In addition, advanced metering infrastructure provides opportunities for new market participants to negotiate access to metering services and develop alternative business models, such as:

- peer-to-peer arrangements that allow the sale of energy between consumers over the distribution network; and
- virtual power plants that allow an aggregator to bid energy into the Wholesale Electricity Market, or provide ancillary services to the market.