Attachment 14.1

ACIL Allen Consulting Report on the Service Standards Adjustment Mechanism

Revised proposed access arrangement information

14 June 2018

Access arrangement information for the period
1 July 2017 to 30 June 2022

westernpower

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ACIL ALLEN CONSULTING

REPORT TO
WESTERN POWER
12 JUNE 2018

SERVICE STANDARDS ADJUSTMENT MECHANISM

EXPERT REPORT

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EXPERT PROFILE

This expert report has been prepared by:

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Marianne has more than 30 years of experience, predominantly in the energy sector, working in, and consulting to, government, regulators and industry. She has worked in a broad range of areas including energy and climate change policy, economic regulation, vocational training, energy supply security, business management, business development, manufacturing and power system planning.

Over the last 18 years Marianne's work has focused on the interface of technical and economic issues, with her detailed understanding of technical, policy, regulatory and commercial matters, her analytical skills and experience, and her practical and pragmatic approach to resolving issues. Since joining ACIL Allen in January 2010, Marianne has provided advice to a range of clients.

Marianne was previously the Manager, Network Regulation at the Essential Services Commission where she was responsible for developing the service standards and incentive arrangements as part of the 2006-10 Electricity Distribution Price Review. The design of the current service incentive arrangements in the National Electricity Market is largely based on the design of the Victorian service incentive arrangements from 2006-10.

Marianne holds a Bachelor of Engineering (First Class Honours) and a Master of Business Administration from Monash University.

A CV is provided in Appendix B.

1 INTRODUCTION

On 2 October 2017, Western Power submitted its proposed revised access arrangement for its electricity network for the period 2017-22 (the AA4 period). The Economic Regulation Authority (ERA) published its Draft Decision on 2 May 2018.

Section 6.30 of the Access Code requires Western Power's access arrangement to include a service standards adjustment mechanism (SSAM). Sections 6.29 to 6.31 of the Access Code provides the following in relation to the SSAM:

6.29 A "service standards adjustment mechanism" is a mechanism in an access arrangement detailing how the service provider's performance during the access arrangement period against the service standard benchmarks is to be treated by the Authority at the next access arrangement review.

6.30 An access arrangement must contain a service standards adjustment mechanism.

6.31 A service standards adjustment mechanism must be:

(a) sufficiently detailed and complete to enable the Authority to apply the service standards adjustment mechanism at the next access arrangement review; and

(b) consistent with the Code objective.

Western Power proposed a SSAM that is largely unchanged from the SSAM in the current access arrangement (for the AA3 period). Under the existing SSAM, Western Power is incentivised to maintain service performance as it is penalised if its service performance deteriorates relative to targets, and it is incentivised to improve service performance where the benefits exceed the costs as it is rewarded for those service performance improvements.

The ERA has determined that Western Power not be incentivised to maintain or improve service performance during the AA4 period. Given that Western Power is intending to maintain service standards at levels attained during the AA3 period, it is of the view that:

To eliminate the risk of customers being exposed to increasing costs without commensurate improvements in service performance, the ERA considers the Code objective is satisfied with the removal of penalties and rewards under the service standard adjustment mechanism for AA4.[1]

1.1 Scope

Western Power has engaged ACIL Allen Consulting (ACIL Allen) to prepare an expert opinion as to whether the SSAM proposed by Western Power does not meet the requirements of the Access Code and whether the SSAM proposed by the ERA meets the requirements of the Access Code. That is, whether the inclusion of (or, as under the ERA's proposal, the removal of) penalties and rewards

[1] Economic Regulation Authority, Draft Decision, para 1195.

promotes economically efficient investment in, and operation of, electricity networks and services of networks in Western Australia, for the AA4 period.

The independent expert report is to include:

- An explanation of the benefit of a service incentive scheme, including why a service incentive scheme exists and its purpose. It shall include the interaction between the SSAM and other aspects of Western Power's regulatory framework, including the revenue cap, the service standard benchmarks (SSBs) and the gain sharing mechanism (GSM).
- By reference to section 4.28 and section 6.40 of the Code, an opinion on whether Western Power's proposed SSAM meets the requirements of the Access Code.
- By reference to section 4.28 and sections 6.29 to 6.31 of the Code, an assessment and opinion on the ERA's draft decision to reject Western Power's proposed SSAM.
- By reference to section 4.28 and sections 6.29 to 6.31 of the Code, an assessment and opinion on the ERA's draft decision to remove penalties and rewards under the SSAM and incentives that it would create.

1.2 Report structure

The rest of this report is structured as follows:

- Chapter 2 provides background information as context for our opinions on the SSAM.
- Chapter 3 provides an overview of the experience with SSAM-type schemes in other jurisdictions.
- Chapter 4 responds to the specific questions raised by Western Power.

2 BACKGROUND

This chapter provides background information as context for my assessment and opinions on the SSAM. Section 2.1 outlines relevant requirements in the Access Code. Section 2.2 provides an overview of the economic regulatory regime.

2.1 Requirements in the Access Code

Chapter 4 of the *Electricity Networks Access Code 2004* (Access Code) states that the ERA must approve or not approve revisions proposed by Western Power to its access arrangement. The ERA must determine whether the proposed revised access arrangement:

- meets the Access Code objective of promoting economically efficient investment in, and operation and use of, electricity networks and services of networks in Western Australia, in order to promote competition in markets upstream and downstream of the networks; and
- complies with the requirements set out in Chapter 5.

As stated in the ERA's draft decision:

> *If the ERA considers the Access Code objective and requirements of chapter 5 are satisfied it must approve the access arrangement. The ERA may not reject a proposed access arrangement on the grounds that another form of access arrangement might be better or more effectively satisfy the Access Code objective and the requirements set out in chapter 5.*[2]

2.2 Economic regulation of network service providers

As network services provided by Western Power are a natural monopoly, its revenues are regulated by the ERA. Western Power is subject to an incentive-based economic regulatory regime, as distinct from a cost of service based economic regulatory regime, with a revenue cap.

The ERA determines the revenue that Western Power can earn over a five-year access arrangement period using a "building block" approach. The revenues are determined based on the following building blocks:

- operating expenditure
- return of capital
- return on capital
- tax allowance
- revenue increment or decrement associated with incentive schemes, such as the GSM and SSAM
- recovery of deferred revenue

[2] Economic Regulation Authority, Draft Decision, para 22

— allowance for the Tariff Equalisation Contribution.

Once the ERA has determined the revenue cap, Western Power is able to choose how it invests in, and operates and uses, its networks.

If Western Power is able to out-perform relative to its expenditure forecasts during an access arrangement period, it is able to retain that underspend for the remainder of the access arrangement period. Conversely, if it under performs relative to its expenditure forecasts during the access arrangement period, it must absorb that additional expenditure.

This provides an incentive for Western Power to out-perform its expenditure forecasts and improve its profitability. The incentive to out-perform weakens progressively over the access arrangement period as the underspends are retained for a shorter period. For example, if an efficiency is realised in year 1 of a five-year access arrangement period, it is retained for the next four years. If an efficiency is realised in year 4, it is retained for the following year only.

To balance this incentive to out-perform its expenditure forecasts, the economic regulatory framework for Western Power (and other network service providers) includes a number of incentive mechanisms. Of most relevance to this report, the economic regulatory regime that applies to Western Power includes:

— A Gain Sharing Mechanism (GSM), which ensures that the incentive to out-perform its operations and maintenance expenditure (opex) forecast is consistent across the access arrangement period. This is also referred to as an efficiency carryover mechanism or an efficiency benefits sharing scheme (EBSS) and is described in section 2.3.

— A Service Standards Adjustment Mechanism (SSAM), which ensures that the incentive to out-perform is balanced by an incentive to not allow service levels to deteriorate. This is also referred to as a service incentive scheme or a service target performance incentive scheme (STPIS) and is described in section 2.4.

The economic regulatory framework also often includes an efficiency carryover mechanism for capital expenditure (capex). This ensures that the opex/capex trade-off is not distorted by only having an efficiency carryover mechanism for opex. The economic regulatory framework for Western Power does not provide for an efficiency carryover mechanism for capex so that is not discussed further in this report.

2.3 Efficiency carryover mechanisms

An efficiency carryover mechanism, similar to the GSM, has been included in the economic regulatory regime for distribution and transmission network service providers since the early 2000s. Any opex efficiency gains and losses are generally retained for a period of five years[3] after the point at which they are incurred so that:

— the incentive to realise efficiency gains is the same in each year

— the efficiency gains and losses are shared between the network service provider and customers in the ratio of 30:70.

As the efficiency carryover mechanism provides an incentive for network service providers to realise efficiency gains consistently across the regulatory period, regulators are able to rely on the revealed actual costs as the basis for forecasting opex for the following regulatory period. Over the long term, the network service providers' opex will be lower as they reveal efficiency gains and consequently customers will pay less.

[3] On the basis that the regulatory period is generally five years.

The GSM that operates for Western Power differs in three respects to the efficiency carryover mechanisms that apply elsewhere:

1. It is asymmetrical – Western Power retains efficiency gains but not efficiency losses.
2. Link to service standard benchmarks (SSBs) – Western Power only retains efficiency gains if all the SSBs are met in a particular year, although the ERA has proposed an amendment so that the total gain share over the regulatory period is based on the proportion of years in which the SSBs are met.[4]
3. Number of years that gains are retained – while Western Power currently retains efficiency gains for five years, the ERA has proposed that the efficiency gains be retained for four years.[5] This reduces the benefits of efficiency gains that accrue to Western Power and increases the benefits of efficiency gains that accrue to its customers. Additionally, the incentive to out-perform its opex forecast is not consistent across the access arrangement period.

2.4 Service incentive schemes

A service incentive scheme, similar to the SSAM, has been included in the economic regulatory regime for distribution network service providers since 2001 and for transmission network service providers since around 2003.

As stated by the Victorian Office of the Regulator-General (the Office) in 2000:

The Office defined two primary objectives for establishing financial incentives namely:

- *to encourage the distributors to achieve, or exceed, the service targets and standards established by this review; and*
- *to ensure that the incentives for the distributors to improve service performance (where that is economically efficient) are not outweighed by the incentives to reduce expenditure inherent in the CPI-X regulatory regime and the carry over mechanism for efficiency gains.*

The service incentive schemes provide an incentive to maintain service performance by penalising the network service providers for deteriorations in service performance that may result from out-performing opex forecasts, and rewarding the network service providers for improvements in service performance relative to targets where the benefits exceed the costs. They complement the efficiency carryover mechanism.

If a network service provider operates under an incentive-based economic regulatory framework with an efficiency carryover mechanism and no service incentive scheme, the incentive to out-perform opex forecasts is not balanced by an incentive to maintain service levels. The network service provider has no incentive to economically efficiently invest to maintain or to improve service performance.

The following examples illustrate the impact of the two mechanisms where the network service provider:

— spends less opex so that service performance is not maintained
— spends more opex to improve service performance
— spends more capex to improve service performance.

Network service provider spends less opex so that service performance is not maintained

The network service provider could spend less on opex by not having sufficient crews available to restore supply on a timely basis so that service performance is not maintained.

If a network service provider spends less opex and service performance is not maintained, they would be rewarded under the efficiency carryover mechanism for that out-performance. The service incentive scheme provides a penalty to the network service provider if service performance is not maintained.

4 Economic Regulation Authority, Draft Decision, para 1133
5 Economic Regulation Authority, Draft Decision, para 1128

Assuming that the incentive rates under the service incentive scheme are based on the value of customer reliability (as they are currently for service incentive schemes that apply to distribution network service providers) then:

- **If the costs avoided by not maintaining service performance are equal to the value that customers place on reliability**, the net impact for the network service provider (and customers) from the service incentive scheme and the efficiency carryover mechanism will be zero. The penalties from the service incentive scheme offset the rewards from the efficiency carryover mechanism.
- **If the costs avoided by not maintaining service performance are greater than the value that customers place on reliability** there will be a net reward for the network service provider from the service incentive scheme and the efficiency carryover mechanism. The penalties from the service incentive scheme are less than the rewards from the efficiency carryover mechanism. It will be economically efficient to not maintain service performance.
- **If the costs avoided by not maintaining service performance are less than the value that customers place on reliability** there will be a net penalty for the network service provider from the service incentive scheme and the efficiency carryover mechanism. The penalties from the service incentive scheme are greater than the penalties from the efficiency carryover mechanism. The network service provider therefore has an incentive to maintain service performance where the costs avoided are less than the value that customers place on reliability.

If the incentive rates are not based on the value that customers place on reliability (as is the case for service incentive schemes that apply to transmission network service providers), then the penalties and rewards under the service incentive scheme are based on those incentive rates rather than the value that customers place on reliability.

Under each scenario, the network service provider would benefit from the out-performance relative to its opex forecast in each year in which it occurred during that access arrangement period.

The reduction in opex will be "revealed" in the base opex and the forecast opex will decrease for the following access arrangement period. Customers will pay less for the reduction in service performance in subsequent access arrangement periods.

Western Power's incentives under the GSM and SSAM are slightly different to other network service providers' incentives as the GSM operates differently to the efficiency carryover mechanism that applies to other network service providers:

- If an SSB is not met in a year, then the GSM does not apply, either in its entirety or proportionately under the ERA's proposal. If an SSB is not met, Western Power is penalised under the service incentive scheme for the deterioration in service performance but there are no associated rewards through the GSM, either in their entirety or proportionally, as Western Power is not compliant with the SSB. This incentivises Western Power to not allow service performance to deteriorate below the SSB. However, it may also strengthen the incentive for Western Power to spend more than economically efficient to ensure that service performance is maintained.
- If the GSM operates over four years rather than five years, then the net penalties under the SSAM decrease – the penalties under SSAM apply for a year longer than the rewards under the GSM. This may incentivise Western Power to maintain a level of service performance that is higher than customers value.

Network service provider spends more opex to improve service performance

A network service provider may spend more opex to improve service performance by ensuring that more crews are available to restore supply when inclement weather that may cause multiple interruptions is forecast. Additional opex is required each year to sustain the improved service performance.

If a network service provider is subject to a symmetrical efficiency carryover mechanism and spends more opex to improve service performance, it will be penalised under the efficiency carryover mechanism for that overspend. The service incentive scheme will provide a reward to the network service provider for that improvement in service performance.

Assuming that the incentive rates under the service incentive scheme are based on the value of customer reliability (as they are currently for service incentive schemes that apply to distribution network service providers) then:

- **If the cost of that service performance improvement is equal to the value that customers place on reliability**, the net impact of the service incentive scheme and the efficiency carryover mechanism for the network service provider (and customers) will be zero. The rewards from the service incentive scheme offset the penalties from the efficiency carryover mechanism.
- **If the cost of that service performance improvement is less than the value that customers place on reliability** there will be a net reward for the network service provider from the service incentive scheme and the efficiency carryover mechanism. The rewards from the service incentive scheme will be greater than the penalties from the efficiency carryover mechanism. While there may be potential service improvements that cost less than the value of customer reliability when a service incentive scheme is first introduced, these opportunities will be exhausted over time. Additional opportunities will only arise if:
  - the cost of service performance improvements decreases
  - the value that customers place on reliability increases.
- **If the cost of that service performance improvement is greater than the value that customers place on reliability**, there will be a net penalty for the network service provider from the service incentive scheme and the efficiency carryover mechanism. The rewards from the service incentive scheme will be less than the penalties from the efficiency carryover mechanism. The network service provider therefore does not have an incentive to improve service performance where the cost to do so is greater than the value that customers place on reliability.

If the incentive rates are not based on the value that customers place on reliability (as is the case for service incentive schemes that apply to transmission network service providers), then the penalties and rewards under the service incentive scheme are based on those incentive rates rather than the value that customers place on reliability.

Under each scenario, the network service provider will bear the additional opex for that service performance improvement for the rest of that regulatory period. The additional opex that is required to efficiently improve service performance will be 'revealed' by the network service provider. The base opex will be higher than it would be in the absence of the service performance improvement, and the forecast opex will increase for the following regulatory period. This enables the service performance improvement to be sustained, if it continues to be economically efficient to do so.

Western Power's incentives under the GSM and SSAM are slightly different to other network service providers' incentives as the GSM operates differently to the efficiency carryover mechanism that applies to other network service providers:

- Western Power is not penalised for overspends and therefore the rewards under the SSAM do not offset penalties under the GSM. This impact will be mitigated if the overspends on service performance improvement offset underspends elsewhere. In this case, Western Power may be eligible for a reward under the GSM, but the reward will be less than it would be without the overspend to improve service performance. If Western Power is not penalised for overspends, the SSAM will effectively fund the service performance improvement.
- If an SSB is not met in a year, then the GSM does not apply, either in its entirety or proportionately under the ERA's proposal. The rewards under the SSAM effectively fund the service performance improvement.
- If the GSM operates over four years rather than five years, then the net rewards for a service performance improvement by Western Power increase – the rewards under the SSAM apply for a year longer than any potential reduction in rewards under the GSM. This may incentivise service performance improvements that cost more than the value that customers place on reliability.
- If the SSAM operates over four years rather than five years, there is no incentive to sustain improvements in service performance that are realised in the final year of the access arrangement period, as they will effectively not be funded in the final year of the following access arrangement period. The additional opex required to sustain the service performance improvement will not be included in the base opex for the following access arrangement period, and a four-year SSAM would

provide no funding of the service performance improvement in the fifth year of the access arrangement period.

Network service provider spends more capex to improve service performance

A network service provider may spend more capex to improve service performance by installing additional sectionalisers so that fewer customers are impacted by a fault in a section of the feeder.

The service incentive scheme will provide a reward to the network service provider for that improvement in service performance.

Assuming that there is no efficiency carryover mechanism on capex and the incentive rates under the service incentive scheme are based on the value of customer reliability (as they are currently for service incentive schemes that apply to distribution network service providers) then:

- **If the cost of that service performance improvement is equal to the value that customers place on reliability**, the rewards from the service incentive scheme will be equal to the financing costs of that capex during the access arrangement period, which will be funded through the service incentive scheme. The capex will roll into the regulatory asset base for the following access arrangement period.
- **If the cost of that service performance improvement is less than the value that customers place on reliability** the rewards from the service incentive scheme will be greater than the financing costs of that capex during the access arrangement period, which will be funded through the service incentive scheme. While there may be potential service improvements for which the financing costs are less than the value of customer reliability when a service incentive scheme is first introduced, these opportunities will be exhausted over time. Additional opportunities will only arise if:
  - the cost of service performance improvements decreases
  - the value that customers place on reliability increases.
- **If the cost of that service performance improvement is greater than the value that customers place on reliability**, the rewards from the service incentive scheme will be less than the financing costs of that capex during the access arrangement period. The network service provider therefore does not have an incentive to improve service performance where the cost to do so is greater than the value that customers place on reliability.

If the incentive rates are not based on the value that customers place on reliability (as is the case for service incentive schemes that apply to transmission network service providers), then the penalties and rewards under the service incentive scheme are based on those incentive rates rather than the value that customers place on reliability.

3 EXPERIENCE WITH SERVICE INCENTIVE SCHEMES

Service incentive schemes have a number of common elements:

- performance measures
- targets for those performance measures
- incentive rates, which determine the rate at which rewards or penalties are paid
- exclusions, which are events that are excluded from determining the actual performance against a measure
- caps, which may apply to the maximum penalties and/or rewards that are payable in respect of a particular performance measure, or groups of performance measures.

The service incentive schemes have evolved over the years.

This chapter provides an overview of the experience with service incentive schemes for distribution network service providers, in section 3.1, and for transmission network service providers, in section 3.2.

3.1 Service incentive schemes for distribution network service providers

The first service incentive scheme introduced in Australia was for the Victorian distribution network service providers in 2001. As the Victorian distribution network service providers have been subject to a service incentive scheme longer than any other distribution network service providers in the National Electricity Market, this section focuses on the service incentive schemes that have applied in Victoria.

Section 3.1.1 considers the evolution of the service incentive scheme that has applied to the distribution network service providers in Victoria, section 3.1.2 discusses the performance of the Victorian distribution network service providers since 2000, and section 3.1.3 considers the performance of Western Power under the SSAM.

Section 3.1.4 provides some examples of actions that the Victorian distribution network service providers have taken in response to the service incentive scheme, and section 3.1.5 identifies limitations with the service incentive scheme.

3.1.1 Evolution of the service incentive scheme for the Victorian distribution network service providers

As discussed above, a service incentive scheme comprises performance measures, targets for those performance measures, incentive rates, exclusions, and caps.

The performance measures in the service incentive scheme that was first introduced for the Victorian distribution network service providers for the 2001-05 regulatory period were for sustained

interruptions only. Momentary interruptions and call centre performance were added as performance measures from 2006.

The targets for the 2001-05 regulatory period were set by the Office to allow for substantial improvements in reliability. Expenditure was provided for the targeted improvement in reliability with incentive rates based on the marginal cost of those reliability improvements, which varied from $4,000 per MegaWatthour (MWh) to $11,000 per MWh, depending on the distribution network service provider.[6]

The service incentive scheme was modified in 2005 so that the targets were set based on the actual performance at the time of the review, and were set at a consistent level for each year of the 2006-10 regulatory period. Rewards were paid for improvements in service performance and penalties were paid for deteriorations in service performance.

No expenditure was explicitly provided for reliability improvements. The incentive rates for the measures in the service incentive scheme were set based on the value of customer reliability (VCR) as determined by VENCorp and then by the Australian Energy Market Operator (AEMO) ($60,000 per MWh for customers on CBD feeders and $30,000 per MWh for all other customers).[7] By setting the incentive rates based on the VCR, the distribution network service providers had an incentive to:

- improve service performance where the cost to do so was less than the value that customers place on reliability
- allow service performance to deteriorate where the cost to maintain service performance was greater than the value that customers place on reliability
- maintain reliability where the cost to do so was equal to the value that customers place on reliability.

The service incentive scheme thereby provided an incentive for the distribution network service provider to provide a level of service performance that was valued by customers.

In 2008, responsibility for economic regulation of the Victorian distribution network service providers transferred to the Australian Energy Regulator (AER). The AER developed a service incentive scheme in accordance with the National Electricity Rules that was similar to the Victorian scheme. While the formulae were different, the outworkings were the same. Under the AER's scheme a target was set for a regulatory period based on the average performance over the previous five years.

The incentive rates increased substantially from 2006-10 to 2011-15 as VCR increased and decreased to similar levels to 2006-10 for 2015-20 when VCR decreased.

Caps were not placed on the rewards or penalties in the 2001-05 regulatory period as:

… the Office […] sought to limit the extent of the financial risk to the distributors by basing the payments on the (annualised) marginal cost of reliability for each distributor, rather than the value customers place on improved reliability.[8]

Similarly, there were no caps on rewards or penalties during the 2006-10 regulatory period. While the financial risk was increased substantially in line with VCR, the service incentive scheme would only incentivise improvements in service performance where it was economically efficient to do so. The maximum rewards and penalties in any one year during this period was 3 per cent of revenue.

The service incentive scheme introduced by the AER included caps:

… to limit the financial impact of the scheme for a DNSP.[9]

The overall cap on revenue at risk was initially 3 per cent, with a 1 per cent cap on the customer service component of the scheme and a 0.5 per cent cap on any individual customer service parameter so that the focus of the scheme was on reliability.[10] The revenue at risk was increased to

6 Essential Services Commission, *Electricity Distribution Price Review 2006-10, Volume 1: Statement of Purpose and Reasons, Final Decision,* October 2005, page 87

7 Essential Services Commission, *Electricity Distribution Price Review 2006-10, Volume 1: Statement of Purpose and Reasons, Final Decision,* October 2005, page 4

8 Office of the Regulator-General, *Electricity Distribution Price Determination 200105, Volume I: Statement of Purpose and Reasons,* September 2000, page 20

9 Australian Energy Regulator, *Electricity distribution network service providers, Service target performance incentive scheme, Final decision,* June 2008, page 8

10 Ibid, page 10

5 per cent as part of amendments that were made to the scheme in May 2009. However, distribution network service providers were able to submit a different level of revenue at risk as part of their regulatory proposals.

For the 2011-15 and 2016-20 periods, the cap on the revenue at risk was 5 per cent for all of the Victorian distribution network service providers except AusNet Services during the 2011-15 regulatory period. The cap on the revenue at risk for AusNet Services was 7 per cent during the 2011-15 regulatory period, despite proposing an uncapped scheme on the basis that:

… a cap on revenue upside is simply penalising consumers by preventing them from receiving efficient reliability improvements as opposed to protecting them from paying windfall gains to a DNSP from random reliability improving events not related to the underlying reliability performance.[11]

An efficiency carryover mechanism applied to opex during this entire period and applied to capex during the 2001-05 and 2016-20 regulatory periods only.

3.1.2 Performance under the Victorian service incentive schemes

The targets that were set for the Victorian electricity distributors from 2000 to 2020 are set out in Figure 3.1 for unplanned System Average Interruption Duration Index (SAIDI) and Figure 3.2 for unplanned System Average Interruption Frequency Index (SAIFI). The targets that were set from 2006 to 2020 for call centre performance are set out in Figure 3.3.

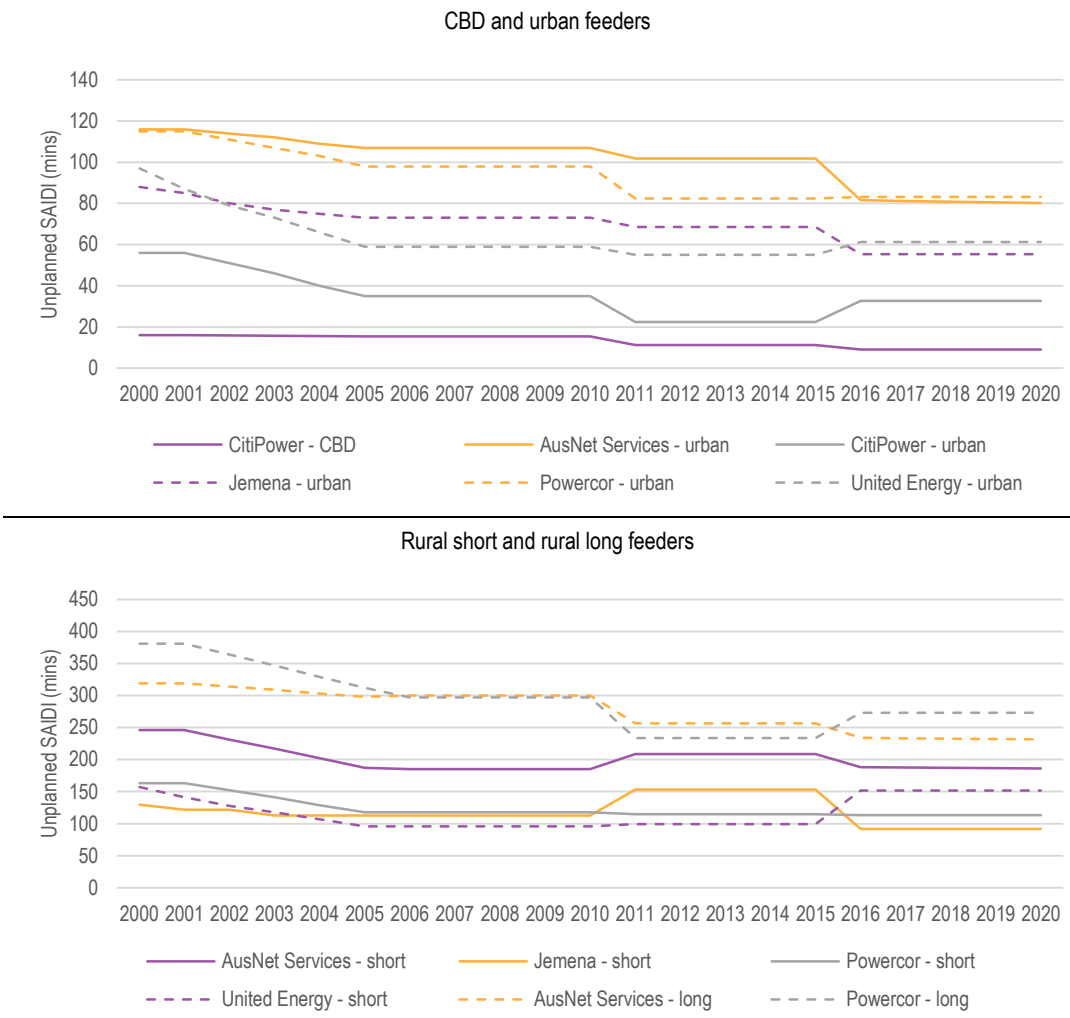
The graphs provide the service incentive scheme targets rather than actual performance because the detailed data on actual performance prior to 2013 is no longer publicly available. The targets reflect actual performance without the year on year volatility, albeit on a lagged basis. For example, an improvement in the target for 2011-15 to 2016-20 reflects an improvement in service performance during the 2011-15 regulatory period.

It is my opinion that the changes in the targets for each of the performance measures in the service incentive scheme over the 2000 to 2020 period indicate that:

- the service performance varies from regulatory period to regulatory period, and from distribution network service provider to distribution network service provider
- there is a general trend towards improving service performance by the Victorian distribution network service providers under the service incentive scheme
- the trend rates are declining consistent with service performance approaching the levels that are the optimum that can be achieved with the current technology and practices that can be implemented, based on the current value of customer reliability
- service performance can jump around from one regulatory period to the next – where improvements in service performance are not sustained, the rewards paid by customers to the distribution network service providers are returned by way of penalties in the following period.

[11] SPI Electricity Pty Ltd, *Electricity Distribution Price Review 2011-2015, Regulatory Proposal, Public Version,* November 2009, page 55

FIGURE 3.1 UNPLANNED SAIDI TARGETS, VICTORIAN ELECTRICITY DISTRIBUTION NETWORK SERVICE PROVIDERS, 2000 TO 2020



SOURCE: ACIL ALLEN ANALYSIS BASED ON THE REVENUE DETERMINATIONS FOR THE VICTORIAN DISTRIBUTION NETWORK SERVICE PROVIDERS ISSUED BY THE OFFICE OF THE REGULATOR-GENERAL FOR 2001-05, THE ESSENTIAL SERVICES COMMISSION FOR 2006-10 AND THE AUSTRALIAN ENERGY REGULATOR FOR 2011-15 AND 2016-20

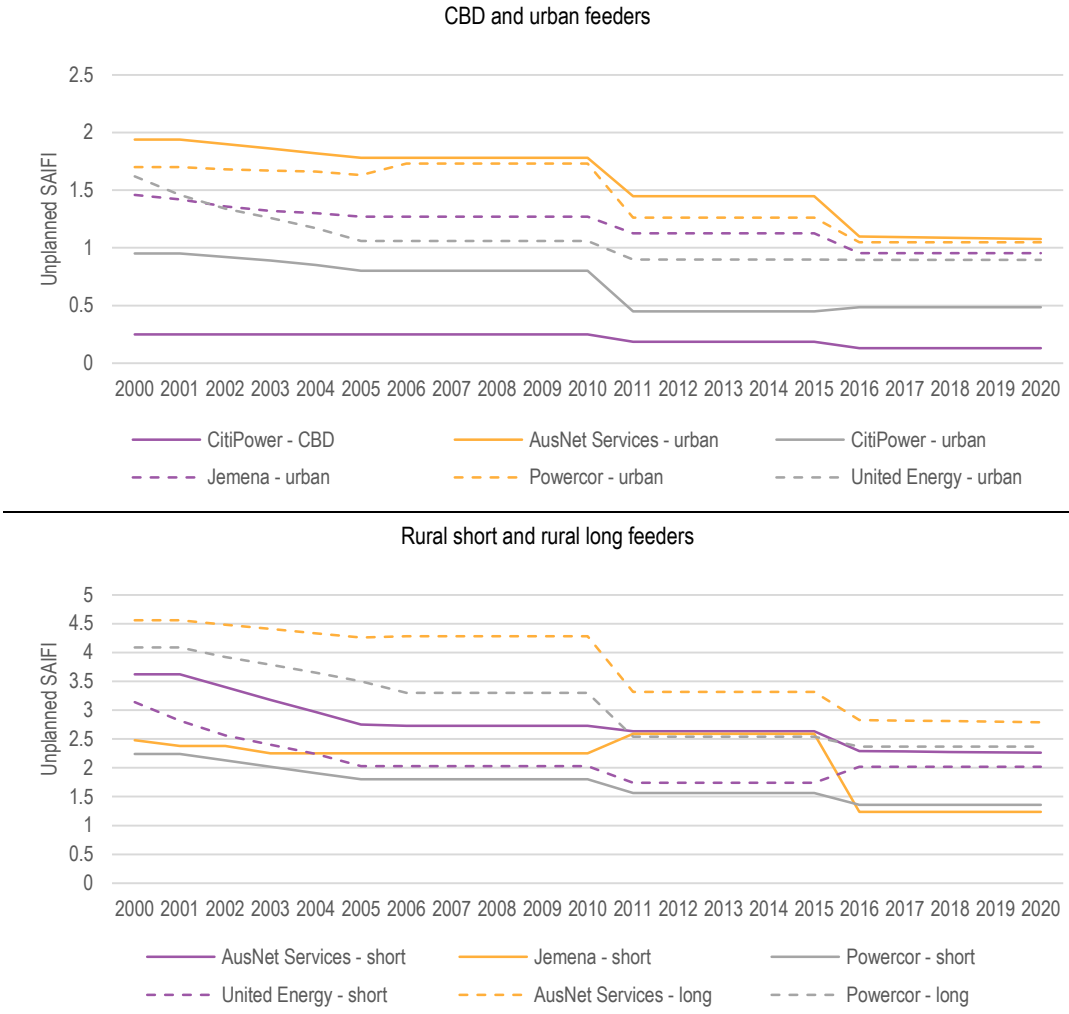
Figure 3.1 illustrates that the targets for unplanned SAIDI generally improved from the 2006-10 regulatory period to the 2011-15 regulatory period, particularly for customers supplied by urban feeders in CitiPower's and Powercor's area, and by rural long feeders in Powercor's and AusNet Services' areas. The targets for unplanned SAIDI worsened for customers supplied by short rural feeders in AusNet Services' and Jemena's areas.

Despite the increase in the VCR during the 2011-15 regulatory period (and therefore the incentive rates), the targets worsened for the 2011-15 regulatory period to the 2016-20 regulatory period for customers supplied by urban feeders in CitiPower's area (offsetting much of the gain from the previous period) and in United Energy's area (albeit by a small amount), by rural short feeders in United Energy's area and by rural long feeders in Powercor's area (offsetting much of the gain from the previous period). The targets improved for customers supplied by urban feeders in AusNet Services' and Jemena's areas, by rural short feeders in AusNet Services' and Jemena's areas (offsetting deteriorations in the previous period), and by rural long feeders in AusNet Services' area.

The improvements in unplanned SAIDI have generally decreased over time except where the performance for customers of a particular distribution network service provider is poor relative to the other distribution network service providers. For example, the performance for customers supplied by urban feeders in AusNet Services' area has traditionally been worse than for customers supplied by urban feeders in other distribution areas. However, the performance of AusNet Services' urban

feeders improved significantly during the 2011-15 regulatory period, and now the unplanned SAIDI is more similar for urban feeders across all distribution network service providers.

FIGURE 3.2 UNPLANNED SAIFI TARGETS, VICTORIAN ELECTRICITY DISTRIBUTION NETWORK SERVICE PROVIDERS, 2000 TO 2020



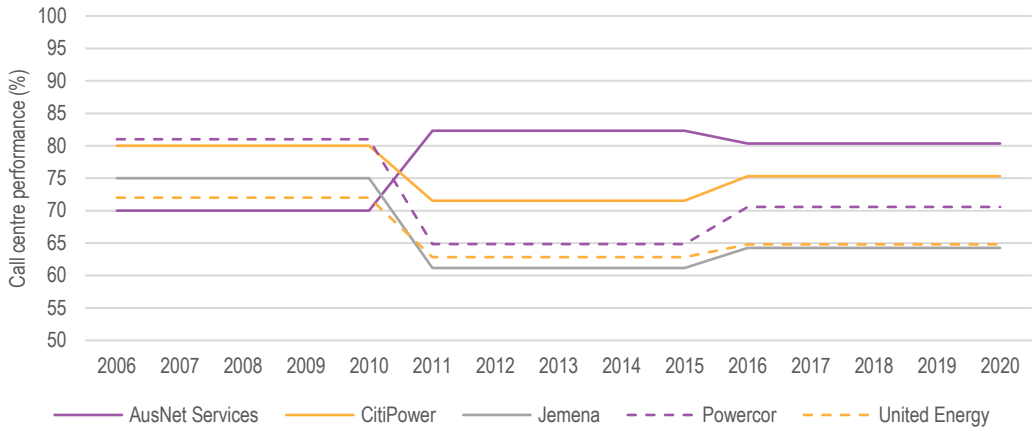
SOURCE: ACIL ALLEN ANALYSIS BASED ON THE REVENUE DETERMINATIONS FOR THE VICTORIAN DISTRIBUTION NETWORK SERVICE PROVIDERS ISSUED BY THE OFFICE OF THE REGULATOR-GENERAL FOR 2001-05, THE ESSENTIAL SERVICES COMMISSION FOR 2006-10 AND THE AUSTRALIAN ENERGY REGULATOR FOR 2011-15 AND 2016-20

Figure 3.2 illustrates that the targets for unplanned SAIFI have generally progressively improved from 2000 to 2020. The only exceptions were a deterioration in unplanned SAIFI for customers supplied by short rural feeders in Jemena's area in the 2006-10 regulatory period and United Energy's area in the 2011-15 regulatory period.

It is noted that the number of customers supplied by rural short feeders in Jemena's area is relatively small and so the performance in the 2006-10 regulatory period could have been significantly impacted by a small number of interruptions. Further, it is noted that the deterioration in the 2006-10 regulatory period was more than offset by a substantial improvement in the 2011-15 regulatory period.

The deterioration in the performance of United Energy's short feeders in the 2011-15 regulatory period offset the improvement in performance in the 2006-10 regulatory period.

FIGURE 3.3 CALL CENTRE PERFORMANCE TARGETS, VICTORIAN ELECTRICITY DISTRIBUTION NETWORK SERVICE PROVIDERS, 2006 TO 2020



SOURCE: ACIL ALLEN ANALYSIS BASED ON THE REVENUE DETERMINATIONS FOR THE VICTORIAN DISTRIBUTION NETWORK SERVICE PROVIDERS ISSUED BY THE ESSENTIAL SERVICES COMMISSION FOR 2006-10 AND THE AUSTRALIAN ENERGY REGULATOR FOR 2011-15 AND 2016-20

Following the inclusion of the call centre performance measure in the service incentive scheme in 2006, the performance of four of the five distribution call centres declined then improved, and the performance of one of the call centres improved and then declined.

3.1.3 Performance of Western Power under the SSAM

It is my opinion that Western Power's distribution service performance has also varied from year to year and from measure to measure under the SSAM, as illustrated in Figure 3.4. However, there is a clear trend towards improving service performance for customers on urban and rural short feeders, with the trend rates declining consistent with service performance approaching the levels that are the optimum that can be achieved with the current technology and practices that can be implemented, based on the current value of customer reliability.

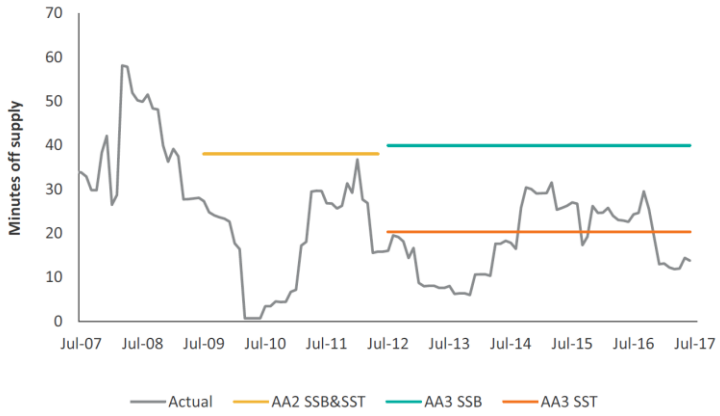
The performance for customers on CBD feeders continues to be volatile around an improved level relative to 2007-10.

The number of interruptions experienced by customers on long rural feeders is fairly consistent over the 2007 to 2017 period, while the minutes off supply has increased (performance has not been maintained). This would indicate that it has not been economically efficient to maintain the minutes off supply for customers on long rural feeders, based on the current incentive rates.

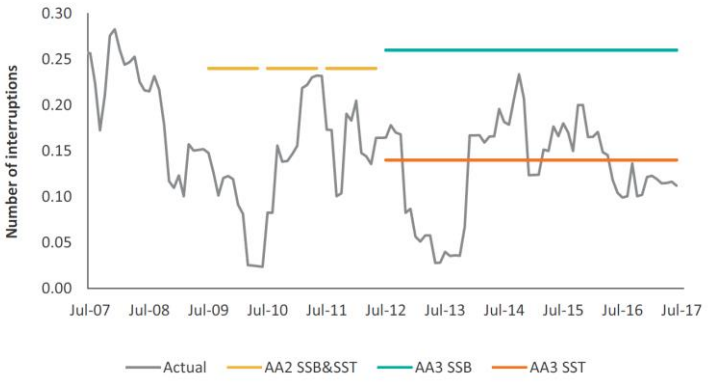
After a decline in call centre performance during the AA2 period, the call centre performance improved during the AA3 period following its inclusion in the SSAM.

FIGURE 3.4 DISTRIBUTION MEASURES, WESTERN POWER, 2007 TO 2017

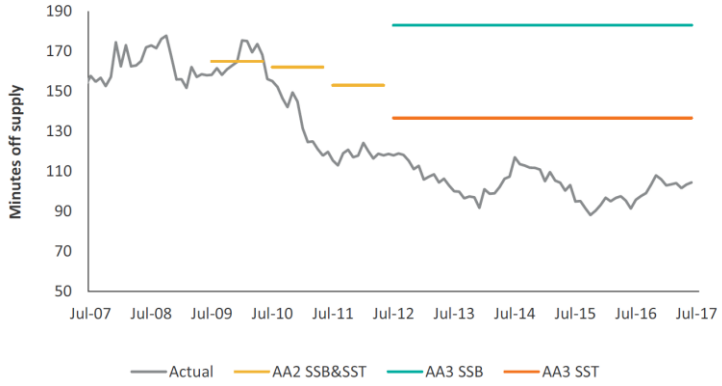
SAIDI – CBD



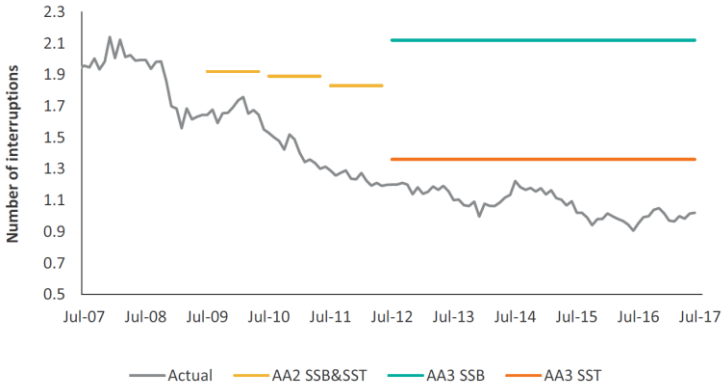
SAIFI – CBD



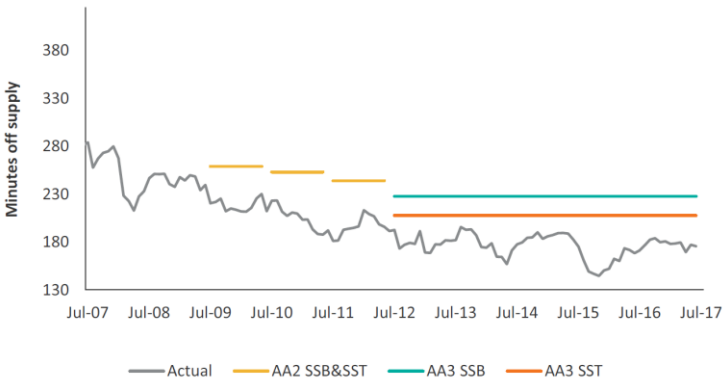
SAIDI – urban



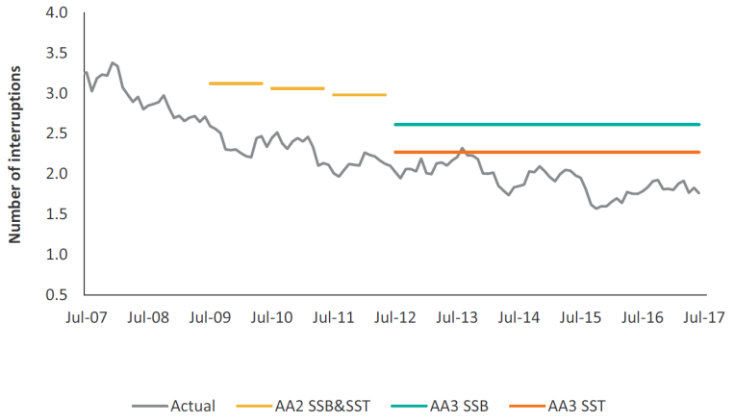
SAIFI – urban



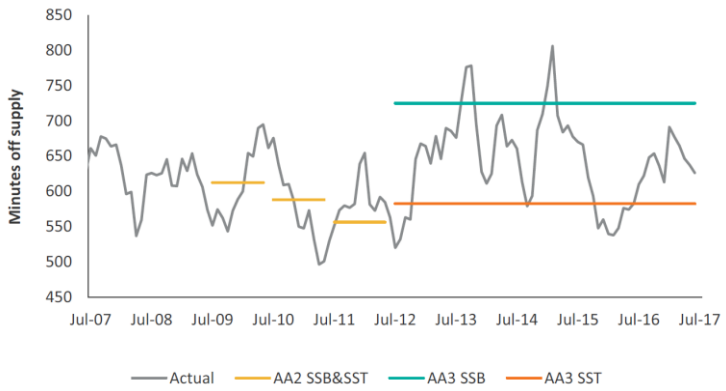
SAIDI – rural short



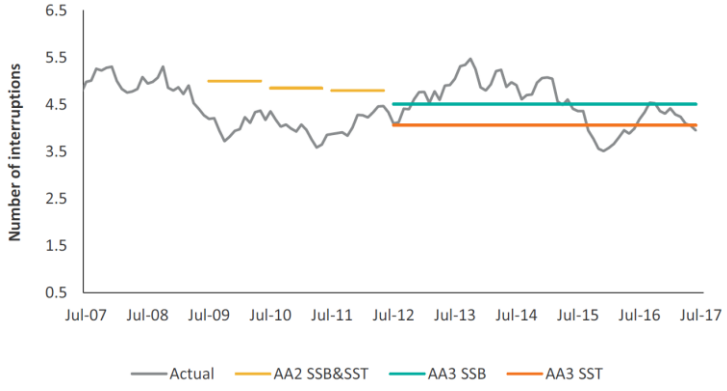
SAIFI – rural short



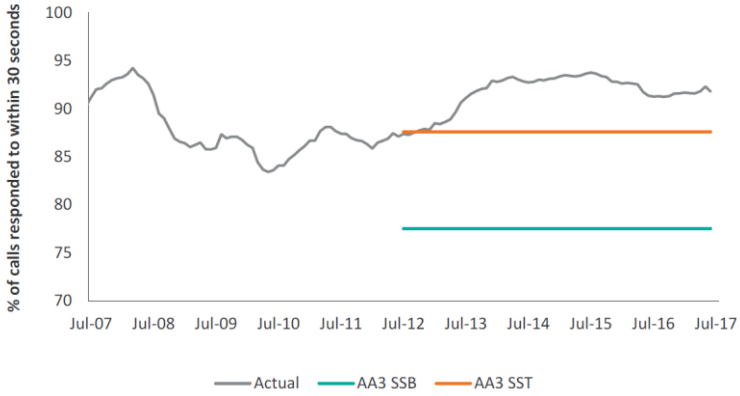
SAIDI – rural long



SAIFI – rural long



Call centre performance



SOURCE: WESTERN POWER, ACCESS ARRANGEMENT INFORMATION, ACCESS ARRANGEMENT REVISIONS FOR THE FOURTH ACCESS ARRANGEMENT PERIOD, PUBLIC, 2 OCTOBER 2017, PAGES 60-63

3.1.4 How have the distribution network service providers responded to the service incentive schemes?

Unplanned SAIDI is influenced by the number of interruptions that occur and the time to restore supply. Following the introduction of the service incentive scheme, the Victorian distribution network service providers implemented a number of programs to reduce the number of interruptions and the time to restore supply. Some of these programs required capital investment and some required additional operating and maintenance expenditure.

From my discussions with the Victorian distribution network service providers (particularly during the design of the service incentive scheme for the 2006-10 period) and my knowledge of distribution networks, programs that have been implemented by the Victorian distribution network service providers include:

- undergrounding or insulating the powerlines between the zone substation and the first protection device to reduce the number of interruptions that will affect the largest number of customers supplied by that feeder
- undergrounding or insulating strategic sections of feeders that contribute to a relatively high number of interruptions
- installing sectionalisers to reduce the number of customers impacted by a supply interruption
- installing automatic circuit reclosers so that momentary interruptions do not need a crew to restore supply and so that supply can be restored more quickly
- animal proofing equipment to reduce the number of interruptions by animals
- addressing hazardous trees to reduce the number of vegetation-related interruptions
- optimising the restoration of supply based on the impact on the service incentive scheme

— re-allocating employees to supply restoration when required, to enable supply to be restored more quickly

— paying overtime so that crews can continue restoring supply at the end of a normal shift and thereby reduce the time to restore supply.

For example, in a statement to the Royal Commission into the 2009 Victorian Bushfires Royal Commission, AusNet Services (formerly SP AusNet) stated that:

…since 2006, SP AusNet has developed a hazardous tree program under the S-factor incentive scheme to encourage, among other things, improved reliability of supply. … The hazardous tree program is a targeted program. Feeders are selected for consideration for the program based on those areas which will benefit the most, prioritised according to vegetation related reliability performance according to what is known in the industry as USAIDI (unplanned system average interruption duration index). Areas that have experienced a number of outages affecting a large number of customers are prioritised. Generally, the area between the zone substation and the first protection device on a selected feeder is specifically targeted for review under the hazardous tree program.[12]

The cost of each of these programs is funded through the rewards from the service incentive scheme. The benefits to customers of funding service performance improvements in this way are that customers:

— only pay for service performance improvements when they are delivered, rather than paying through forecast expenditure in the expectation that performance may improve

— pay no more than the value that they place on service performance improvements.

3.1.5 Limitations of the service incentive scheme

In my opinion, the main limitation of the service incentive scheme, as currently designed, is that it rewards ***average*** service performance only. It, in effect, biases any performance improvements to those feeders or feeder sections that impact a relatively large number of customers. Improvements that impact a small number of customers do not have a material impact on the average SAIDI or SAIFI.

Guaranteed Service Level (GSL) payments are made to the worst served customers – those that are off supply for a long period of time or who experience a large number of interruptions.

However, there is a group of customers for whom it is not economically efficient to improve performance under the service incentive scheme and for whom the performance is not bad enough for GSL payments to be made. Prior to 2011 the distribution network service providers were required to report on the worst served feeders to provide visibility of the performance experienced by these customers.

In my opinion, there are a number of options to address any performance concerns for these customers:

— To explicitly allow expenditure for service performance improvements for these customers, noting that those service performance improvements are not economically efficient.

— Set higher VCRs for customers in those areas (noting this may lift average performance).

— Require reporting on the performance of the worst served feeders. These could be by reference to a minutes off supply threshold. The information on the performance of these feeders would then be transparent and provide the regulator (and customers) with a time series of data that could be used to inform a decision to explicitly allow expenditure for service performance improvements for these customers.

— For the Government to regulate a minimum standard of performance for each feeder, so that the regulator is required to provide expenditure to the distribution network service provider to meet this minimum standard.

[12] In the matter of 2009 Victorian Bushfires Royal Commission, SP AusNet's outline of submissions in respect of the Beechworth Fire, RESP 5100.001.0001, para 78.

3.2 Service incentive schemes for transmission network service providers

The transmission network service providers in the National Electricity Market have been subject to the Australian Competition and Consumer Commission's (ACCC's) and then the AER's service incentive scheme since its introduction in 2003. The service incentive scheme was applied to the first revenue determination for each transmission network service provider after the introduction of the scheme.

3.2.1 Evolution of the service incentive scheme for transmission network service providers

The transmission service incentive scheme currently has three components:

- **A service component** which provides a financial incentive to improve and maintain service performance to balance the incentive to reduce costs at the expense of service performance. The service component includes measures relating to average circuit outage rate, loss of supply event frequency and average outage duration.
- **A market impact component** which provides a financial incentive to improve and maintain the number of dispatch intervals when a transmission outage results in a network outage constraint with a marginal value greater than $10/MWh. The market impact component was added to the scheme in March 2008.
- **A network capability component** which funds and incentivises incremental changes that would improve the capability of the network at times when it is most needed. The network capability component was added to the scheme in December 2012.

The targets for the service and market impact components are based on the average of historical performance. There is a cap and collar (or floor) around the target. Rewards are paid to the network service providers for performance between the cap and the target and penalties are paid for performance between the target and the collar.

The incentive rates are based on the amount of revenue at risk for the particular measure and the increment between the target and the cap or collar. The maximum revenue at risk is payable as a reward at the cap and as a penalty at the collar (or floor).

The maximum revenue at risk from the service component increased from 1.0 per cent to 1.25 per cent in October 2015. The market impact component provided rewards of up to 2 per cent until September 2014, after which there have been rewards and penalties of up to 1 per cent. The market impact component (MIC) transitioned from being a reward only scheme to one with rewards and penalties as the AER was of the view that:

The MIC was initially designed as a reward-only parameter to encourage TNSPs to improve performance and recognising that to do so TNSPs may need to incur operating expenditure above their allowances. Evidence suggests that TNSPs have responded favourably to the existing incentive by incorporating the costs associated with such improvements into their base expenditure to some degree. As a result, we think it is appropriate to adapt the incentive structure to reflect the fact that TNSPs have embedded this approach into their normal business operation.[13]

The additional funding available through the network capability component is 1.5 per cent.

The amount of revenue at risk for each component can be varied by a transmission network service provider as part of its revenue determination, but the maximum revenue at risk is 5 per cent.

3.2.2 Performance under the transmission service incentive scheme

The performance of the main transmission network service provider in each of the National Electricity Market jurisdictions is illustrated for average outage duration (service component) in Figure 3.5, for loss of supply event frequency (service component) in Figure 3.6 and for the market impact component in Figure 3.7.

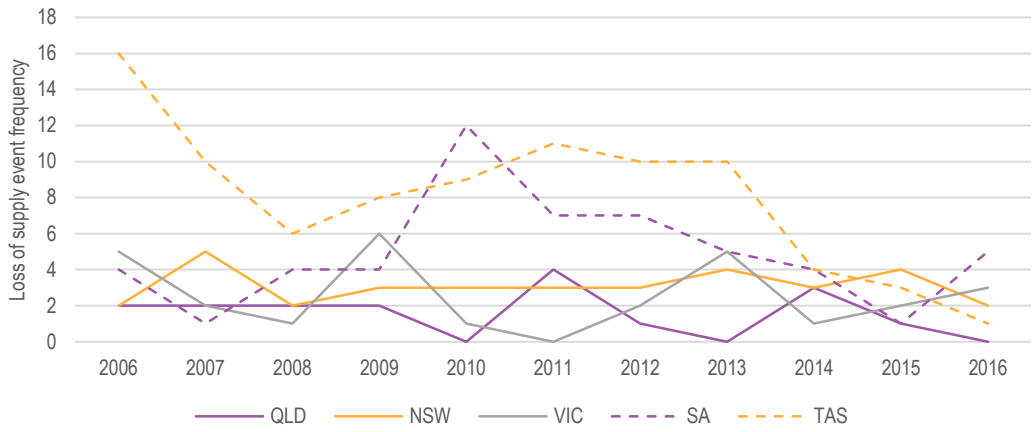
[13] Australian Energy Regulator, *Electricity transmission network service providers service target performance incentive scheme, Final Decision,* September 2015, page 23

FIGURE 3.5 AVERAGE OUTAGE DURATION, TRANSMISSION NETWORK SERVICE PROVIDERS 2006 TO 2016

SOURCE: ACIL ALLEN ANALYSIS BASED ON AER'S ELECTRICITY NETWORK SERVICE PROVIDER REPORT – 24 APRIL 2018 (EXCEL SPREADSHEET)

Figure 3.5 indicates that the average outage duration has varied from year to year. There is no consistent trend of improvement or deterioration in the performance.

FIGURE 3.6 LOSS OF SUPPLY EVENT FREQUENCY, TRANSMISSION NETWORK SERVICE PROVIDERS, 2006-2016

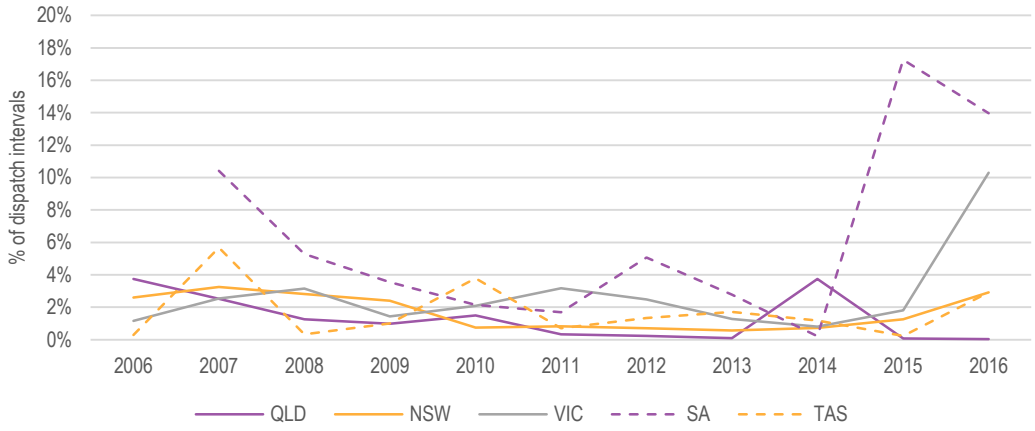


: Note: the definition of loss of supply event frequency varies from provider to provider.

SOURCE: ACIL ALLEN ANALYSIS BASED ON AER'S ELECTRICITY NETWORK SERVICE PROVIDER REPORT – 24 APRIL 2018 (EXCEL SPREADSHEET)

While Figure 3.6 indicates that there has been a gradual improvement in the loss of event supply frequency by the transmission network service provider in Tasmania over the 2006 to 2016 period, there is no consistent trend of improvement or deterioration in the performance by the other transmission network service providers.

FIGURE 3.7 MARKET IMPACT, TRANSMISSION NETWORK SERVICE PROVIDERS, 2006 TO 2016



SOURCE: ACIL ALLEN ANALYSIS BASED ON AER'S ELECTRICITY NETWORK SERVICE PROVIDER REPORT – 24 APRIL 2018 (EXCEL SPREADSHEET)

Figure 3.7 indicates that there is no consistent trend of improvement or deterioration in the market impact measure by the transmission network service providers over the 2006 to 2016 period.

3.2.3 Performance of Western Power under the SSAM

The SSAM that applies to Western Power's transmission performance has a service component only. The performance of Western Power under the SSAM for the transmission measures is illustrated in Figure 3.8.

FIGURE 3.8 TRANSMISSION MEASURES, WESTERN POWER, 2007 TO 2017

SOURCE: WESTERN POWER, ACCESS ARRANGEMENT INFORMATION, ACCESS ARRANGEMENT REVISIONS FOR THE FOURTH ACCESS ARRANGEMENT PERIOD, PUBLIC, 2 OCTOBER 2017, PAGES 65-67

Similar to the other transmission network service providers, it is my opinion that Western Power's performance on its transmission measures has varied from year to year. There is a slight improvement in the loss of supply event frequency (>0.1 and ≤1.0) and a slight downward trend in average outage duration. While distribution measures are influenced by a relatively large number of events, transmission measures are influenced by a small number of events, any one of which can have a significant impact on the performance against the measure.

3.2.4 How have the transmission network service providers responded to the service incentive scheme?

The incentives provided by the transmission service incentive scheme are quite different to the incentives provided by the distribution service incentive scheme. This is because of the different levels of incentive rates and that the capital investment required to impact the service performance of the transmission network is significantly greater than the capital investment required to improve the service performance of the distribution network. From my knowledge of transmission networks and my investigations I am of the opinion that the incentive rates under the transmission scheme only provide an incentive to optimise restoration of supply and for relatively low-cost capital investments to improve performance against the service component and the market impact components. The graphs in section 3.2.2 demonstrate that the service incentive scheme acts to maintain, rather than improve, the service performance of the transmission network.

The network capability component of the service incentive scheme funds incremental capital investment that would improve the capability of the network at times when it is most needed.

4 RESPONSES TO WESTERN POWER'S SPECIFIC QUESTIONS

This chapter provides the responses to the specific questions raised by Western Power on the SSAM:

- An explanation of the benefit of a service incentive scheme, including why a service incentive scheme exists and its purpose. It shall include the interaction between the SSAM and other aspects of Western Power's regulatory framework, including the revenue cap, the SSBs and the GSM.
- By reference to section 4.28 and section 6.40 of the Code, an opinion on whether Western Power's proposed SSAM meets the requirements of the Access Code.
- By reference to section 4.28 and sections 6.29 to 6.31 of the Code, an assessment and opinion on the ERA's draft decision to reject Western Power's proposed SSAM.
- By reference to section 4.28 and sections 6.29 to 6.31 of the Code, an assessment and opinion on the ERA's draft decision to remove penalties and rewards under the SSAM and incentives that it would create.

4.1 The benefit of a service incentive scheme

As a natural monopoly, Western Power is subject to incentive-based economic regulation. The revenue that it can earn from its customers is subject to a revenue cap that is determined by the ERA for a five-year access arrangement period.

If Western Power out-performs its expenditure forecast during a five-year access arrangement period, it is able to retain those underspends.

The economic regulatory regime for Western Power includes a SSAM so that the incentive to out-perform its expenditure forecasts is balanced by an incentive to maintain service performance. Under the SSAM, Western Power is penalised if service performance is not maintained and rewarded if service performance improves.

The incentive for Western Power to realise opex efficiency gains is stronger at the beginning of the access arrangement period than at the end of the access arrangement period. This is because the opex efficiency gains are retained for more years if they are realised at the beginning of the access arrangement period than if they are realised at the end of the access arrangement period.

To ensure that Western Power's incentive to seek opex efficiency gains is consistent through the access arrangement period, it is also subject to a GSM. Under the GSM, Western Power retains the opex efficiency gains for five years, although the ERA has proposed that this period be reduced to four years for the AA4 period.

Western Power has a number of SSBs that it is required to meet. If an SSB is not met in a year, no rewards are payable under the GSM for that year. The ERA has proposed that the rewards be paid on a proportional basis during the AA4 period based on the number of years in which all SSBs are met.

The operation of the GSM and SSAM provide an incentive to maintain service performance where it is economically efficient to do so, based on the incentive rates for each performance measure in the SSAM.

- If the costs avoided by not maintaining service performance are equal to the value of that deterioration in performance, then the rewards under the GSM offset the penalties under the SSAM and Western Power has an incentive to maintain service performance.
- If the costs avoided by not maintaining service performance are greater than the value of that deterioration in performance, then the rewards under the GSM are greater than the penalties under the SSAM and Western Power has an incentive to allow service performance to deteriorate, but not to the extent that the SSB is not met.
- If the costs avoided by not maintaining service performance are less than the value of that deterioration in performance, then the penalties under the SSAM are greater than the rewards under the GSM and Western Power has an incentive to maintain service performance.

If the SSBs are not met, there are no rewards under the GSM and penalties under the SSAM for any deterioration in service performance. If the SSBs are not met, Western Power is not compliant with the SSBs and has an incentive to not allow service performance to deteriorate to the level of the SSBs, even if it is not economically efficient to do so.

If opex efficiency gains are retained by Western Power for four years rather than five years, the rewards under the GSM are lower and Western Power has a stronger incentive to maintain service performance.

As the SSAM rewards improvements in service performance, it provides an incentive for Western Power to improve service performance where it is economically efficient to do so, based on the incentive rates for each performance measure in the SSAM. The improvements in service performance are funded by the rewards under the SSAM for that improvement in performance.

The incentive rates for the distribution SSAM are based on the value of customer reliability. Western Power therefore has an incentive to improve service performance where the costs of improving performance are less than the value that the customer places on reliability.

4.2 Does Western Power's proposed SSAM meet the requirements of the Access Code?

Section 6.30 of the Access Code requires Western Power's access arrangement to include a service standards adjustment mechanism (SSAM). Sections 6.29 to 6.31 of the Access Code provides the following in relation to the SSAM:

6.29 A "service standards adjustment mechanism" is a mechanism in an access arrangement detailing how the service provider's performance during the access arrangement period against the service standard benchmarks is to be treated by the Authority at the next access arrangement review.

6.30 An access arrangement must contain a service standards adjustment mechanism.

6.31 A service standards adjustment mechanism must be:

(a) sufficiently detailed and complete to enable the Authority to apply the service standards adjustment mechanism at the next access arrangement review; and

(b) consistent with the Code objective.

Western Power's proposed SSAM is set out in section 7.5 of the access arrangement and therefore meets section 6.30 of the Access Code.

Western Power's proposed SSAM includes:

- performance measures
- targets for those performance measures
- incentive rates, which determine the rate at which rewards or penalties are paid

— exclusions, which are events that are excluded from determining the actual performance against a measure

— caps, which apply to the maximum penalties and/or rewards that are payable.

In my opinion, Western Power's proposed SSAM details how its service performance during the AA4 period will be treated by the ERA at the next access arrangement review. It is also sufficiently detailed and complete to enable the ERA to apply the SSAM at the next access arrangement review. It therefore meets sections 6.29 and 6.31(a) of the Access Code.

The Code objective is to promote economically efficient investment in, and operation and use of, electricity networks and services of networks in Western Australia.

As discussed in section 4.1, Western Power's proposed SSAM uses incentive rates that are based on the value that customers place on improvements in service performance. It therefore provides an incentive to maintain service performance where it is economically efficient to do so, to balance the incentives under the incentive-based regulatory framework to out-perform its expenditure forecasts and under the GSM to out-perform its opex forecasts.

Western Power's proposed SSAM also provides an incentive to improve service performance where the benefits exceed the costs, that is, where it is economically efficient to do so.

For these reasons, in my opinion, Western Power's proposed SSAM meets section 6.31(b) of the Access Code. That is, Western Power's proposed SSAM is consistent with the Code objective.

Section 4.28 of the Access Code states that the ERA must approve Western Power's proposed SSAM if it meets the Code objective and the requirements set out in Chapter 5 of the Code. In my opinion, Western Power's proposed SSAM meets the Code objective.

There are no specific requirements in Chapter 5 of the Access Code that relate to the SSAM.

As Western Power's proposed SSAM meets the Code objective and the requirements set out in Chapter 5 of the Code, it is my opinion that the ERA must approve it.

4.3 Assessment and opinion on the ERA's draft decision to reject Western Power's proposed SSAM

Section 4.28(b) of the Access Code makes it clear that if the Code objective and the requirements in the Code are satisfied, the ERA must not refuse to approve Western Power's proposed SSAM on the grounds that another form of SSAM might better or more effectively satisfy the Code objective and the requirements set out in Chapter 5 of the Code.

As discussed in section 4.2, it is my opinion that Western Power's proposed SSAM meets the Code objective and the requirements set out in Chapter 5 of the Code. In my opinion, the ERA cannot refuse to approve Western Power's proposed SSAM.

As discussed in section 4.4, it is my opinion that ERA's position to remove penalties and rewards under the SSAM is not consistent with the Code objective. Accordingly, even if the ERA could refuse to approve Western Power's SSAM, it is my opinion that it has not proposed another form of SSAM that better or more effectively satisfies the Code objective and the requirements set out in Chapter 5 of the Code.

4.4 Assessment and opinion on the ERA's draft decision to remove penalties and rewards under the SSAM

The ERA's draft decision is to remove penalties and rewards under the SSAM. If there are no rewards and penalties under the SSAM, then:

1. Western Power has an incentive to out-perform its expenditure forecasts and allow service performance to deteriorate to a level that is no worse than the SSB. Western Power will retain the underspends for the access arrangement period, be rewarded for out-performing its opex forecasts under the GSM as long as the SSBs are met, and not be penalised under the SSAM.

During the AA4 period, customers will pay for the service performance improvements that were delivered during the AA3 period but there will be no incentive for Western Power to sustain those service performance improvements, particularly where those service performance improvements rely on a higher level of opex each year.

2. Western Power has no incentive to improve service performance, even where it is economically efficient to do so. Western Power will not be rewarded under the SSAM for those service performance improvements, and therefore will have no revenue source to fund those service performance improvements.

   Western Power has had an incentive to implement the lowest cost actions to improve service performance during the AA3 period. There may be some actions remaining for which the cost is less than the value that customers place on service performance improvements, that is, they are economically efficient investments. Western Power will have no incentive to implement those actions.

   The removal of rewards and penalties from the SSAM does not provide an incentive for Western Power to invest in, and operate and use, the Western Power network in an economically efficient manner. It is my opinion that the removal of rewards and penalties from the SSAM is therefore not consistent with the Code objective.

APPENDICES

A DECLARATION

This report has been prepared by Marianne Lourey of ACIL Allen Consulting Pty Ltd (ACN 102 652 148).

As the author of this report I have read, understood and complied with the Expert Witness Guidelines entitled Expert Witnesses in Proceedings in the Federal Court of Australia (as defined in the Federal Court of Australia's Practice Note CM 7). As the author I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld from this report.

A curriculum vitae for Marianne Lourey is provided as Appendix B.

B

CURRICULUM VITAE

Marianne Lourey is an Executive Director at ACIL Allen Consulting (ACIL Allen). She has more than 30 years of experience, predominantly in the energy sector, working in, and consulting to, government, regulators and industry. She has worked in a broad range of areas including energy and climate change policy, economic regulation, vocational training, energy supply security, business management, business development, manufacturing and power system planning.

Over the last 18 years Marianne's work has focused on the interface of technical and economic issues, with her detailed understanding of technical, policy, regulatory and commercial matters, her analytical skills and experience, and her practical and pragmatic approach to resolving issues.

Marianne has a deep understanding of the national economic regulatory framework that applies to electricity networks, and of the economic regulatory framework that applies to Western Power. As she has worked in, or consulted to, government, regulators and industry, she understands the perspective of each of the participants in the revenue determination /access arrangement review process.

Soon after joining ACIL Allen in early 2010, Marianne provided advice to Western Power on its 2012/13-2016/17 access arrangement review for its electricity distribution and transmission networks. The advice focused on the capital and operating expenditure, and service standard and incentive regime. Marianne assisted in developing the strategy for the expenditure and service incentive proposals, assessed the expenditure forecasts, assisted in drafting the relevant parts of Western Power's submission to the regulator, reviewed business cases drafted within the business and reviewed the business's responses to questions from the regulator. The key objective of the advice was to assist Western Power to meet its regulatory obligations.

Marianne thus has an intimate knowledge of Western Power's current incentive arrangements, including the service incentive arrangements, gain sharing mechanism, investment adjustment mechanism and D factor. She has a detailed understanding of the rationale for all aspects of the current service incentive arrangements.

She has also:

- provided advice to the Victorian Government on the economic regulation of the Victorian electricity distribution businesses, drafting submissions on the Australian Energy Regulator's (AER's) framework and approach, issues paper, and draft determinations for the 2011-15 and 2016-20 regulatory control periods, and supporting appeals made by the Victorian Government
- provided advice to the Victorian Government on the economic regulatory framework, drafting submissions to the Australian Energy Market Commission on proposed rule changes, and derogations to the Rules
- provided advice to the Western Australian Government on the identification and assessment of options for the Western Australian Tariff Equalisation Fund and Tariff Equalisation Contribution – this

required the development of a model of Horizon Power's costs and revenues, incorporating a range of sensitivities

- provided advice to Horizon Power on its revenue model and its economic regulatory framework
- undertaken large scale studies for the Victorian Government to assess the impact of cost reflective network tariffs on residential consumers generally, and vulnerable consumers in particular, and recommended a range of policy options to mitigate the impact of cost reflective network tariffs on vulnerable customers, including consideration of demand side management options
- provided advice to the Victorian Government on the roll out of smart meters, in particular the regulation of the costs for the roll out
- reviewed, for the Essential Services Commission, the GSL payments scheme that applies to the Victorian electricity distribution businesses.

As the Executive Director for Energy Policy within the Victorian Government from 2005 to 2010, Marianne was heavily involved with the development of Chapter 6 of the National Electricity Rules (NER) and the transfer of state-based economic regulation to the Australian Energy Regulator. During this period, she also led the deregulation of retail electricity prices in Victoria and the rollout of smart meters.

During 2004 and 2005 Marianne was the Manager, Network Regulation at the Essential Services Commission. She was responsible for the capital and operating expenditure forecasts, the metering expenditure and price control, and the service standard framework (including a service incentive scheme, guaranteed service level payments and service standards) as part of the 2006-10 Electricity Distribution Price Review. The service incentive scheme developed by Marianne has largely been replicated by the AER in the development of the national Service Target Performance Incentive Scheme. Marianne also provided expert advice in relation to the demand forecasts, price control and modelling.

During this period, she also finalised the Essential Services Commission's decision on the rollout of interval meters to all Victorian consumers, and on the charges for public lighting.

As a consultant at KPMG from 1999 to 2004, Marianne provided advice to the former Office of the Regulator-General on the allocation of costs between the retail and distribution businesses and the benchmarking of non-network costs as part of the 2001-05 Electricity Distribution Price Review, and on the costs to roll out interval meters to all Victorian consumers. She also led large market research based studies for the South Australian regulator and NSW businesses to understand the willingness of customers to pay for changes in electricity distribution service levels, and studies for NSW and Queensland businesses to understand consumers' preferred level of reliability.

From 1986-1999, Marianne worked in private industry, predominantly with ABB, and prior to that, with the former State Electricity Commission of Victoria as a power system planner.

Marianne holds a first class honours degree in Electrical and Computer Systems Engineering and a Master of Business Administration.

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