

Attachment H.5

SAPN_PUBLIC_Opex Step Change – No Access Poles_Redacted

03 July, 2015



Table of Contents

1 Additional information in support of the no access pole program 3

2 Executive summary 4

3 Compliance with regulatory obligations 5

4 The need for an operating expenditure step change 6

5 AER’s assessment of individual programs/projects and benefits 8

6 Concluding statements 10



1 Additional information in support of the no access pole program

SA Power Networks provided a significant amount of evidence in support of our proposed step change for inspections of 'no access poles' in our Original Proposal for the 2015-20 regulatory control period (**RCP**). This included section 1.1.1 of Attachment 21.13 'Operating Expenditure SCS Step Changes' and Supporting Documents 20.13 'Asset Inspection Strategy Business Case' and 21.37 'Western Power: 2008 Distribution Wood Pole Audit Review and Order' to the Original Proposal.

This document contains additional evidence to that presented in the Original Proposal and Revised Proposal (section 8.12 of the Revised Proposal in particular).

2 Executive summary

In its Preliminary Determination, the Australian Energy Regulator (**AER**) rejected our proposed step change in operating expenditure to perform below-ground inspections of our 'no access' poles and did not allow any increase in our operating expenditure forecast to allow for this program. The AER considered that:

- the program is not driven by a new regulatory obligation;
- funding is not provided for individual projects or programs, but rather at a total 'opex' level and a Distribution Network Service Provider (**DNSP**) should be able to reallocate funds to meet existing regulatory or legal requirements; and
- the program gives rise to efficiencies as it should avoid reactive emergency response operating expenditure and higher cost reactive replacement and funding of this type of program would be inconsistent with the incentive schemes.

We have provided additional evidence in this document to address the AER's concerns and demonstrate why an allowance in our operating expenditure forecast is necessary in order for SA Power Networks to be provided with a reasonable opportunity to recover at least the efficient costs of complying with our regulatory obligations and requirements.

In particular, we have:

- provided an overview of, and expanded upon, the discussion and analysis included in the Asset Inspection Strategy business case that was submitted to the AER as part of our Original Proposal; and
- explained why the AER's view, *'that a step change in operating expenditure for this program is not necessary as it is part of the normal changes in the make-up of programs within a network business, where from time to time some new programs emerge while others reduce or finish, without affecting the total level of recurrent expenditure'*, is incorrect (specifically in respect to no access poles inspections).

In our Revised Proposal, we have revised the operating expenditure forecast to be incurred as a result of this step change to reflect the updated quotes we have received from a number of service providers, which includes a small reduction in the associated unit costs.

This document includes further information in relation to these updated unit costs.

3 Compliance with regulatory obligations

As outlined in Section 8.12 of the Revised Proposal, SA Power Networks has a prescriptive regulatory obligation to inspect 'no access' poles under our Essential Services Commission of South Australia (**ESCoSA**) approved Safety, Reliability, Maintenance and Technical Management Plan (**SRMTMP**) and the Network Maintenance Manual (No 12) which is incorporated by reference into the ESCoSA approved SRMTMP. Under the SRMTMP and the Network Maintenance Manual (No 12) we are required to comply with various maintenance strategies including in relation to poles.

We also have a general obligation under section 60 of the *Electricity Act 1996* (SA) to take reasonable steps to ensure that our electricity infrastructure is safe and safely operated. What amounts to reasonable steps changes over time and is informed by good electricity industry practice.

Following the Western Australian safety regulator's criticism of Western Power's pole inspection practices in the '2008 Distribution Wood Pole Audit Review and Order'¹, we decided it was prudent to reassess our own practices. This included a review of other DNSPs in Australia with regard to their inspection practices of no-access poles. This review, as summarised in Appendix B, found that we were the only DNSP to not perform below ground inspections of our no-access poles.

The condition of our 'no access' poles is critical because these poles are largely located in urbanised areas where they are in close proximity to the public and their potential failure poses a serious safety hazard. A pole failure can cause serious harm to the public and significant damage to property. Under certain circumstances, a catastrophic failure of one pole can cause a cascade failure of multiple poles along the power line.

The Office of the Technical Regulator (**OTR**) is aware that SA Power Networks has not been in strict compliance with the SRMTMP with respect to 'no access' poles and we are working with the OTR to rectify this non-compliance during the 2015-20 RCP.

The proposed no access inspection program therefore constitutes a reasonable step that we are required to take to comply with our regulatory obligations and requirements and reflects good electricity industry practice.

¹ Original Proposal - Supporting Document 21.37: Western Power: 2008 Distribution Wood Pole Audit Review and Order

4 The need for an operating expenditure step change

To support the prudence and efficiency of this step change, which is explained in detail in the Revised Proposal, we have included below an overview of the Asset Inspection Strategy business case that accompanied our Original Proposal as Supporting Document 20.13.

This overview also expands upon the discussion and analysis included in our initial Asset Inspection Strategy business case to provide the AER with further information.

Since our Original Proposal we have also undertaken additional investigations and modelling to better gauge the risks associated with no-access poles, and confirm that we need to undertake pole footing inspections of all no-access poles over the 2015-20 RCP.

Findings from the sample study

During the 2010-15 RCP, we conducted a study on a sample of approximately 300 no-access poles of mixed base types (i.e. 99 poles covered with bitumen, 90 poles covered with concrete, 47 poles covered with pavers and 63 poles covered with soil/gravel). The key findings from that study were as follows:

- the corrosion of poles covered with pavers was double that of concrete and bitumen. It has been seen by inspectors and generally noted that for poles covered with pavers there is corrosion at the bed sand level of the pole. Anecdotal evidence suggests that the worse than expected corrosion may be due to corrosive sand used by others or possibly the moisture retention against the steel;
- the level of corrosion of all base types was higher than for the neighbouring 'access' poles;
- no access poles with soil/gravel showed high results (i.e. high corrosion detected), which is likely due to moist conditions and moisture retention; and
- the average age of no access poles is noticeably higher, showing the lack of previous replacement; for no access poles, the average age was 49 years compared to 32 years for access poles.

Analysis of failure rates

We have also performed a sample study of recent pole failures to determine the proportion of unassisted no-access pole failures compared to the equivalent failures of other poles.

The key finding of this analysis is that the unassisted failure rate of our no-access poles is 35% higher than the equivalent failure rate of other poles.

This finding supports the conclusions of the sample inspection survey. That is, our no access poles are in a worse condition than we previously believed, in part due to no access poles being, on average, older than other poles. Therefore, we can expect that no-access pole failures per annum will increase further (relative to other poles) over the 2015-20 RCP.

The AER's own repex modelling suggests we are in a fairly steep ageing mode for poles, suggesting intervention levels (replacing or plating) will be increasing at nearly 7% per annum over the 2015-20 RCP. Assuming this growth rate is indicative of the growth in access pole failures, the difference in failure rates for no-access poles suggests that no-access pole failure rates will increase at a rate higher than 7% per annum over the 2015-20 RCP. Based upon this growth rate, without

interventions through the proposed inspections, the no-access pole failure rate could be nearly double the access pole failure rate by the end of the 2015-20 RCP. By this time, one in every 3,000 no-access poles could have an unassisted failure compared to one in every 6,000 access poles.

This analysis clearly suggests that we need to perform ground inspections of no-access poles in order to bring the failure rates of this cohort in line with the other poles.

The need to inspect this cohort over the next 5 years

Even allowing for the poorer condition of these no-access poles discussed above, it could be argued that we can target inspections to the poorer condition or older poles in order to roll out the first inspection cycle over a longer period. Alternatively, we could use an alternative method to infer the below ground condition without the need for digging.

These alternatives might also reduce failure levels, but with a more modest increase in inspection costs.

Unfortunately, there are a number of matters that mean these alternatives would not be practicable and could result in pole failure rates still increasing because:

- we are unsure of the condition of each pole; in our sample inspections we have not found a strong correlation between the condition above ground condition and that below;
- we have investigated other inspection alternatives, where digging is not necessary, but have not found a reliable method of estimating below-ground condition; and
- although we have some idea of population ages and profile, we do not know individual pole ages with any certainty without inspecting the pole, and so, cannot estimate the condition from this.

Therefore, it is difficult to define decision rules for what inspections could be deferred, say, beyond the 2015-20 RCP. Given these constraints and the current and anticipated failure levels of 'no access' poles, we believe it is prudent to inspect this cohort of poles over the 2015-20 RCP.

The inspection cost estimate

Since our Original Proposal, we have received updated quotes from a number of inspection service providers. These quotes have been provided on a competitive basis and are an appropriate basis for the cost estimate of the step change forecast. We have used the average of the quotes from the two service providers that we anticipate to engage.

Table 1 indicates the planned volumes and forecast increase in operating expenditure associated with this step change. Further detail is provided in Appendix A.

Table 1: No Access Poles forecast, volumes and expenditure (June 2015, \$ million)

Forecast No Access Poles	2015/16	2016/17	2017/18	2018/19	2019/20	Total
Volume	12,000	12,000	12,000	12,000	7,350	55,350
Opex² (\$ million)	4.738	4.738	4.738	4.738	2.902	21.854



5 AER's assessment of individual programs/projects and benefits

The AER considers that a step change in operating expenditure for this no access pole asset inspection program is not necessary as this program is part of the normal changes in the make-up of programs within a network business, where from time to time some new programs emerge while others reduce or finish, without affecting the total level of recurrent expenditure.

In forming this view, the AER noted that:

'...inspecting no access poles may be one area where SA Power Networks needs to devote additional resources in the 2015–20 regulatory control period...

...it is a prudent service provider's responsibility to reallocate its opex budget to meet these changing priorities. It generally should not need an increase in its budget to meet existing regulatory obligations. We see no reason why we should make a distinction for this proposed program of expenditure...'³

The AER has failed to recognise that the actual expenditure in the base year is **not** sufficient to achieve the operating expenditure objectives in that year because the assumption that SA Power Networks was fully complying with the obligation to inspect 'no access' poles in the base year is incorrect, as outlined in section 2 of this report.

The argument that providing funding for total operating expenditure and not individual programs or projects justifies the rejection of this step change is not valid. We are required under our regulatory obligation to inspect 'no access' poles. The efficient base year operating expenditure did not include these costs and these costs represent a material and on-going increase in the total operating expenditure required to achieve the operating expenditure objectives as compared to our efficient base year operating expenditure. To decide to reject this step change based on an assumption about the sufficiency of our base year operating expenditure, is not consistent with the AER's stated approach to step changes set out in the AER's Expenditure Forecast Assessment Guideline.

The AER also supported its rejection of this step change by referencing statements we made in our justifications, which noted some of the benefits in inspecting these poles. It considered that these are 'efficiencies' and it would be inconsistent with other incentive mechanisms under the NER (such as STPIS, EBSS, CESS) if it allowed for a step change in these circumstances. More specifically, it noted a number of matters where inspecting our no-access poles will avoid other costs and risks and so flow through to other incentive mechanisms that provide funding, including:

- reducing reactive emergency response to unplanned failures – EBSS;
- avoiding the higher costs of emergency replacement of failed poles relative to planned replacement – CESS; and
- improving reliability through reducing failures – STPIS.

Critically, we believe the AER has misunderstood why DNSPs are obligated to routinely inspect poles. It is not to realise efficiency benefits in its cost base; it is to avoid the safety risks associated with pole failures (the costs of which are borne by the community). This is why safety regulators tend to

³ AER, Preliminary Decision: SA Power Networks determination 2015-16 to 2019-20, April 2015, p 7-77.

monitor pole failure numbers and DNSPs' pole inspection practices so closely (as evidenced by the Western Power review by its safety regulator).

Efficiency benefits, should they arise, will be shared under the relevant EBSS and CESS schemes. For example, by inspecting no access poles there is an opportunity that we can plate a pole in order to provide a significant life extension. However, since this is an opportunity benefit, it is not a cost that is avoided by the action; it is a benefit that is realised by the action. And if we are able to avoid a pole replacement by our preferred pole plating treatment, 70% of the efficiency that is realised will flow to customers under the CESS arrangements.

6 Concluding statements

In this document, and in the Revised Proposal, we have addressed the AER's concerns with our proposed step change in the operating expenditure which is necessary to fund a change in our practices to perform below-ground inspections of our 'no access' poles.

This program is necessary to achieve ongoing compliance with our safety obligations, and specifically our SRMTMP. As outlined in the Revised Proposal and this supporting attachment, we have explained that the need for this change has also been driven by:

- pole failure events in Western Australia, resulting in direction from the safety regulator in that State for the distributor to perform below ground inspection of all poles;
- a recent below-ground inspection of a sample of our no-access poles which found these poles were in a poorer condition than we previously thought and our current practices were not a reliable indicator of below-ground condition;
- a survey of other DNSPs' practices, which found that we were the only DNSP not to routinely perform below-ground inspections on its no-access poles; and
- analysis of recent pole failures, which indicates that the failure rate of no-access poles is significantly above other poles.

We do not agree with the AER's view in the Preliminary Determination that this program does not need funding through a step change. We have explained that the primary reason for this program is to address safety risk.

[Redacted]

[Redacted]

Appendix B – Distributors’ Inspection Practices

