

Ergon Energy Corporation Limited

Submission on the *Distribution Losses in
Expenditure Forecasts*

Consultation Paper

Australian Energy Market Commission

25 May 2012





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1. INTRODUCTION

Ergon Energy Corporation Limited (Ergon Energy), in its capacity as a Distribution Network Service Provider (DNSP) in Queensland, welcomes the opportunity to provide comment to the Australian Energy Market Commission (AEMC) on its *Distribution Losses in Expenditure Forecasts Consultation Paper* (Consultation Paper).

Ergon Energy does not support the Copper Development Centre's (CDC) proposal to add an explicit requirement in the National Electricity Rules (the Rules) for the cost of network losses to be considered by DNSPs when preparing their operating expenditure (opex) and capital expenditure (capex) forecasts. This is because:

- It is industry practice to consider the cost of network losses in the development and review of purchasing and design standards;
- There is insufficient evidence to suggest that distribution losses are inefficient;
- There is little value in requiring DNSPs to address network losses for small projects as the incremental losses are unlikely to have a substantial impact; and
- The proposed Regulatory Investment Test for Distribution (RIT-D) requires DNSPs to consider electrical energy losses where a distribution limitation exists and the estimated capital cost of the most expensive option is \$5 million or more.

Ergon Energy therefore recommends that DNSPs continue their current practice of considering electrical energy losses in setting their purchasing and design standards.

If a Rule change is adopted, Ergon Energy suggests it is better placed in Chapter 5 of the Rules to focus on investment decisions. We also recommend that the AEMC delay making a determination on this issue until other overlapping market reforms, such as the *Power of Choice – Stage 3 DSP Review*, have been finalised.

Section 2 outlines our response in relation to the consultation questions posed by the AEMC. Ergon Energy is available to discuss this submission or provide further detail regarding the issues raised, should the AEMC require.



2. TABLE OF DETAILED COMMENTS

Question	Ergon Energy Response
<i>Question 1</i>	
<p>(a) Is there evidence that DNSPs do not consider the cost of electrical energy losses when making capital and operating expenditure forecasts?</p>	<p>Ergon Energy has always been acutely aware of the life cycle costs of the assets we purchase and / or design. For example, Ergon Energy:</p> <ul style="list-style-type: none"> • Has developed purchasing and design standards that consider the life cycle costs of the assets used, including the electrical losses over the operating life of the assets. The standardisation of designs and material brings efficiency to operating and maintenance practices and stock holdings. Significant items of plant such as distribution and power transformers are purchased under contracts on a forecast life cycle that includes a cost of losses to produce an optimal design of the plant. This provides an incentive to suppliers to minimise losses to the extent dictated by the loss cost figures; and • Undertakes reviews of these design and operating standards and purchasing contracts and adjusts the cost of loss parameters according to system load profiles, load factors and load loss factors. For example, our standard list of conductor and cable sizes is based on a whole of life economic cost review of the conductor and cable installed costs, including the cost of losses. Ultimately, losses are part of the trade off between a 'standard' design and purchasing approach that brings economies of scale and a 'specific' design approach where the objective might be (but is not limited to) loss minimisation. <p>As the cost of electrical energy losses is considered in the context of standards, they are generally not explicitly considered in distribution projects, or capex and opex forecasts. This is the most economically efficient way to manage our distribution network costs. However, Ergon Energy does consider the cost of electrical energy losses when performing Net Present Value (NPV) analyses for larger projects. These activities are good engineering practice and lead to a least cost solution for our customers by considering the total lifetime cost of implementing new infrastructure.</p>
<p>(b) Do the rules provide effective incentives for DNSPs to make efficient capital and operating expenditure decisions? If so, what are these incentives?</p>	<p>Incentive regulation, by its design, provides sufficient incentives for DNSPs to make efficient capex and opex decisions. Under this framework, DNSPs are provided with incentives to undertake efficient investment (i.e. not over- or under-invest in the network) and to produce prudent regulatory proposals. The Efficiency Benefit Sharing Scheme (EBSS) for opex also seeks to achieve efficiency gains, with the benefits later shared with customers in the form of lower prices. The current <i>Economic Regulation of Network Service Providers</i> consultation is also</p>



	<p>examining whether a capex incentive mechanism should be introduced, while the <i>Power of Choice – Stage 3 DSP Review</i> is considering a new incentive mechanism which would enable DNSPs to deem value from market benefits. This may promote a DNSP’s consideration of broader market benefits when making investment decisions.</p> <p>In the context of the cost of electrical losses, it has been industry standard to consider the whole of life costs of electrical materials including, explicitly, the life cycle cost of losses.</p>
<p>(c) To what extent does the EBSS impact on a DNSP’s consideration of the cost of losses?</p>	<p>As noted by the AEMC, the Australian Energy Regulator (AER) does not currently apply the EBSS to distribution losses. Therefore, the current EBSS arrangements do not impact on Ergon Energy’s consideration of the cost of losses. During consultation on this issue, the AER noted:</p> <p><i>“...it would require evidence that distribution losses are deviating from efficient levels before considering whether the EBSS should apply to distribution losses. In the absence of such evidence, the AER does not consider it appropriate to apply the EBSS to distribution losses at this time. The AER recognises that the incentives to make efficiency gains related to distribution losses are complex and to include them in the EBSS would be a significant undertaking”.</i>¹</p> <p>Ergon Energy supports this position, particularly in relation to the lack of evidence that distribution losses are deviating from efficient levels.</p> <p>As noted above, Ergon Energy considers distribution losses in the context of setting purchasing and design standards, not in daily operations. Distribution losses may be considered in some capital investment decisions for large projects.</p>
<p>(d) Do distribution losses significantly contribute to the price of electricity to consumers? If so, how much do they contribute and does this materiality vary between networks?</p>	<p>Distribution losses account for approximately 5 to 10 per cent of total electricity transported. This depends on which part of the distribution system a customer is connected to, and the size and characteristics of the load and the network. All else being equal, this means distribution losses contribute approximately 5 to 10 per cent to the price of electricity to consumers. However, retail tariffs could have other components and / or different rates at different times (e.g. time of use tariffs) which will distort their contribution to a customer’s price.</p>
<p><i>Question 2</i></p>	
<p>(a) How might the extension of the EEO program to distribution networks address the concerns raised in the rule change request by CDC?</p>	<p>As mentioned above, Ergon Energy takes into account the cost of losses when making purchasing decisions (e.g. for transformers and standard conductors) and in forming decisions on large projects. Therefore, extending the Energy Efficiency Opportunities (EEO) program to distribution networks will have little or no effect on our present practices or outcomes.</p>

¹ AER (2008), *Explanatory Statement – Proposed Electricity DNSPs EBSS*, April 2008, p17.



<p>(b) To what extent do the requirements on distribution transformers under the MEPS program encourage DNSPs to minimise distribution losses?</p>	<p>The requirements on distribution transformers under the Minimum Energy Performance Standards (MEPS) program are unlikely to encourage Ergon Energy to minimise distribution losses as it will merely replicate calculations already undertaken in determining material standards. Ergon Energy currently considers the cost of losses when making transformer purchasing decisions, and previously had specified loss costs in place on earlier contracts. Transformers currently being supplied meet the Minimum Power Efficiency Levels and, in some cases, also meet the High Power Efficiency Levels.</p> <p>To achieve further efficiencies, amorphous core transformers could be considered. Ergon Energy understands these transformers could reduce load losses to around 30 per cent of current design features and lead to an overall MEPS gain of 0.1 to 0.2 per cent. However, these transformers are considerably more expensive than transformers currently being supplied. As such, the increase in capital costs will outweigh any benefits received from reducing load losses, thus leading to an inefficient outcome.</p>
<p>(c) Do the requirements on distribution transformers under the MEPS program influence the broader network equipment decisions of DNSPs?</p>	<p>The requirements for distribution transformers under the MEPS program do not influence Ergon Energy's broader network equipment decisions. However, Ergon Energy does consider the cost of losses for broader network equipment purchasing and large project options without the influence of the MEPS program.</p>
<p><i>Question 3</i></p>	
<p>(a) Will the proposed rule result in DNSPs considering the cost of network losses in preparing their capital and operating expenditure forecasts?</p>	<p>The proposed Rule is unlikely to result in Ergon Energy considering the cost of network losses more than we presently do. Please refer to our comments against Question 1(a) above for information on our current practices.</p>
<p>(b) Are there any alternatives to the proposed rule that may better address the issues raised in the rule change request?</p>	<p>Ergon Energy does not believe a Rule change is necessary. Instead, Ergon Energy suggests that network service providers should continue to consider network losses when making purchasing and large projects decisions. Including an explicit rule will require the AER to assess the process by which DNSPs satisfy the requirement and to examine the engineering and economical material used in making standards etc. It should also be acknowledged that the majority of networks will not be immediately altered as a result of the changes to the standards – it will take 30 to 40 years before the change will have a significant impact.</p> <p>Ergon Energy notes that the CDC has considered and rejected two alternative options:</p> <ol style="list-style-type: none"> 1. Making DNSPs responsible for the purchase of losses on their network; and 2. Introducing / implementing a direct regulatory incentive scheme. <p>Ergon Energy agrees with the CDC's position and arguments. Further, Ergon Energy does not believe there is sufficient evidence to suggest that distribution losses are inefficient. This means</p>



	<p>applying the EBSS, a regulatory incentive scheme, is inappropriate. We also note that distribution losses are a function of many parameters including the amount of electrical current running through the network (e.g. a network with low utilisation could have a lower percentage of losses than a highly utilised network), the ambient temperature, and network design and operational factors. Therefore, any incentive mechanism will need to consider these factors in determining the optimum configuration of the network to achieve the least cost solution for customers.</p>
(c) Should a similar requirement to the proposed rule be considered for transmission networks?	Nil comment.
<i>Question 4</i>	
(a) What are the likely implementation and ongoing costs associated with the proposed rule for DNSPs and the AER?	Introducing a Rules-based solution will require additional expenditure to more closely monitor network losses and will place an administrative burden on DNSPs to ensure compliance (i.e. beyond the present requirements to calculate loss factors annually). At the same time, it is likely to effect minimal or no change on expenditure outcomes.
(b) Is the proposed rule likely to result in more efficient expenditure which could lead to lower electricity prices for consumers over the long term?	The proposed Rule is unlikely to result in more efficient expenditures. As previously indicated network losses are already considered by Ergon Energy in the development of purchasing and design standards. Additionally, a requirement in the Rules will effectively duplicate efforts and costs arising under the extension of the MEPS program.
<i>Question 5</i>	
(a) How material is the cost of losses to the expenditure by DNSPs that would not be captured under the requirements of the proposed RIT-D?	As Ergon Energy already considers the cost of losses in the development of purchasing and design standards, there would be an immaterial effect on small projects not captured by the RIT-D. Consequently, Ergon Energy does not support the CDC's proposal for DNSPs to explicitly consider the cost of losses in their expenditure forecasts.
(b) To what extent would the guidance and worked examples proposed to be provided by the AER in the RIT-D application guidelines help determine the value ascribed by DNSPs under this proposed rule if implemented?	Ergon Energy recognises that the proposed RIT-D Application Guidelines (the Guidelines) will provide guidance and worked examples as to the class of market benefits to be considered (including changes in electrical energy losses) and the acceptable methodologies for valuing these market benefits. ² Based on this, Ergon Energy believes the Guidelines may assist in determining the value ascribed by DNSPs under the CDC's proposed rule (if implemented). However, care must be taken to ensure the methodologies can be easily transferred and applied to projects below the proposed RIT-D cost threshold of \$5 million.

² Proposed clauses 5.6.5CA(h)(5) and 5.6.5CA(h)(7).