



SERVICE QUALITY INCENTIVE SCHEME FOR ELECTRICITY DISTRIBUTION SERVICES IN QUEENSLAND

Response to Draft Decision

Ergon Energy

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1. INTRODUCTION

Ergon Energy welcomes the opportunity to respond to the draft decision. This response should be read in conjunction to our responses to other papers on this topic:

- The scoping paper on Service Quality Incentive regime released by Meyrick Associates and Pacific Economics Group
- Meyrick Associates and Pacific Economics Group's Proposed Service Quality Incentive regime.

Ergon Energy accepts the concept of a regulatory contract that delivers the right outcomes for customers and a balanced outcome for the distributors. We welcome a contract that would encourage the business to target those customers that value the quality improvement the most, and rewards the business for correct behaviour such as targeting the poorest performing parts of the network. The contract should also limit the shortfalls of such schemes as discussed in this paper such as the stochastic nature of reliability measures.

The Authority, at this time, has not expressed the details of how the service quality contract will deal with these conflicting requirements. Ergon Energy, therefore, will develop its program without the benefits of the details of the reliability incentive scheme. We request the opportunity to adjust the program, if necessary, once the details of the scheme have been agreed.

Nevertheless, Ergon Energy will deal with a number of issues as it makes its price service proposals to the Authority. Our submissions will be focussed on the best outcomes for customers, and we hope that the contract struck with the Authority will support such an approach. We also hope that our proposals will crystallise many of the issues of the incentive scheme for the Authority. Our proposals will address varying level of service¹, but otherwise will be constructed without reference to the service quality scheme. Instead, it will be based on the outcomes of our survey work and the current performance of the network. We will propose a target profile, and the Capex and Opex requirements to achieve the profile.

The remainder of this paper splits the issues to be largely dealt with by the DNSP in making its submission from those to be dealt with by the Authority. Naturally, these interact and influence each other.

2. ISSUES ADDRESSED AS PART OF ERGON ENERGY'S SUBMISSION

2.1. Community at Risk/System Security

Recent storm events in Energex and Ergon Energy and the resulting public outcry highlight the critically of electricity supply which underpins modern life. Electricity, as a service, is valued much greater by a community than the commodity value of electricity.

Ergon Energy recognises this and is currently analysing the Community at Risk profile of the network. Although Community at Risk is related to reliability – it represents a different aspect of reliability. Reliability improvement is generally focussed on reducing the impact, exposure, number and duration of all outages that randomly occur throughout the network. Reducing the risk profile of community outages, however, means locating those towns/communities that could be interrupted frequently or for a long duration as a whole due to the nature if the supply. This type of risk most often presents itself at the subtransmission or zone substation level where faults potentially interrupt large groups of customers.

The reliability criteria on categorising the network into urban, rural short and rural long is based on the length and loading of the HV system (11kV/22kV etc). It does not address the length of

¹ Specific targets will be proposed by Ergon Energy – it is the timeframe to achieve these targets that will form the service quality options proposed.

the subtransmission system required to deliver reliability of supply to the zone substation. Benchmarking amongst distributor then is flawed because it assumes the same security at the zone substations. This is not the case where a distributor supplies communities far from the transmission system, which tends to follow the coastline. Part of the reason for Ergon Energy's poor benchmarking then, is the due to the limited coverage of the network supply area from the transmission system.

The overall subtransmission reliability performance contributes approximately 30% of Ergon Energy's SAIDI and 40% of Ergon Energy's SAIFI. Billinton and Allan² advise that subtransmission reliability performance should typically contribute only 10% to total customer reliability levels. Ergon Energy's subtransmission performance reflects the long radial nature and high exposure of Ergon Energy's subtransmission system, a problem exacerbated by an aging network and constructions without overhead earthwire. We will be proposing ways to reduce the risk profile of the subtransmission system for selected areas.

Some NSW Distributors also "propose to implement, in their base cases and in their alternative improvement scenarios, substantial programs to increase redundancy at the zone substation level".³ The Authority recognises that this type of capex, resulting in "material improvements in underlying system-wide service quality levels would more appropriately be addressed in the context of establishing the opex and capex building blocks used to set the distributors' revenue caps."⁴ Likewise, Ergon Energy will be proposing that capex that improves the community risk profile should form part of the Regulatory Contract being proposed by the Authority (SQI Draft Decision, Sect 4, part c) and not funded as part of the incentives scheme.

2.2. Worst Performing Feeders

The Authority made the following observation in the Draft Decision:

*In releasing the Meyrick/PEG Draft Report for comment, the Authority flagged its concern that a broad service quality incentive scheme with rewards to improve reliability may not be warranted if customers were happy with current reliability levels. ... However, the evidence also suggested that those customers on the worst performing parts of the electricity networks were likely to be willing to pay more for improved reliability.*⁵

This reflects the findings of KPMG, in various sates of Australia, where it was found that there was a reliability threshold which separated those customers that were willing to pay for reliability improvements from those that were happy with their supply. Ergon Energy engaged KPMG to do a similar survey and analysis on our customers. We will be using this work to identify those parts of the network that require improvement where it is warranted

Ergon Energy also recognises that customer expectations change over time. As customers become more and more reliant on electricity, current levels of reliability will be tolerated less and less. Ergon Energy will therefore have general programs of reliability improvement, but the focus will be on those poorest performing parts of the network, with consideration of the expected increase in customer expectations over the period of the Determination. These reliability improvement programs would form part of the service quality proposals as noted in the Authority's SQI Draft Decision (Sect 4, part b.)

² "Reliability Evaluation of Power Systems" Billinton, R and Allan, RN (1984) New York & London Plenum Press, Chap 7, pp210-239

³ PB Associates Draft Report "Providing incentives for service quality – Incentive Rates for S Factors" prepared for IPART NSW13/01/2004. Page 25

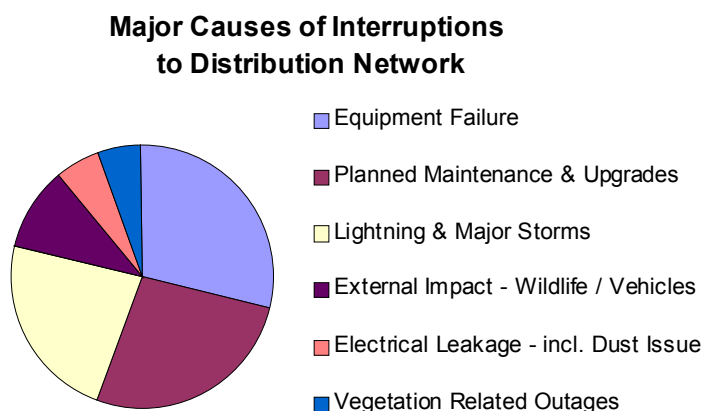
⁴ Queensland Competition Authority Draft Decision "Service Quality Incentive Scheme for Electricity Distribution Services in Queensland" February 2004. Page 3

⁵ Queensland Competition Authority Draft Decision "Service Quality Incentive Scheme for Electricity Distribution Services in Queensland" February 2004. Page 2

3. ISSUES TO BE ADDRESSED BY THE AUTHORITY

3.1. The stochastic nature of reliability measures

In Ergon Energy’s case, network reliability is substantially a function of storm exposure and the variability of weather patterns. The following chart shows that a substantial part of our outages is a result of lightning and storm activity.



This gives rise to great variation in reliability indices over time: good years can be followed by bad years, even though the underlying intrinsic reliability of the system has been improved. The stochastic nature of reliability indices therefore gives rise to risks to the Distributor when they are linked to an incentive regime with penalties. This risk would be acceptable over time if it was symmetrical, however, as discussed in the next section, this is not the case.

3.2. The asymmetry of reliability events

For a given system configuration a base level of reliability can be assumed. Rarely, if ever, will the system display perfect reliability, even if the weather remains perfect. Wildlife, dust, vegetation and vehicles/farm machinery still interfere with electricity lines. This then could be considered one end of the reliability spectrum for which this system could perform no better. This end of the reliability spectrum is considered bounded by this intrinsic “best” performance.

The other end of the reliability spectrum, however, poor performance due to bad weather, is virtually unbounded. For example, storms or cyclones can inflict much damage across the state, although the probability of widespread damage is rare.

Regulators try to limit this upper bound by allowing specific events to be excluded from the incentive regime, although the purpose of the exclusion was to allow benchmarking rather than specifically related to incentive regimes. It is critical then how this exclusion clause is framed, especially in Ergon Energy’s case where many events could slip under this exclusion but still make dramatic impacts of our measures. Our dispersed customer base makes this scenario likely with the current exclusion criteria.

There are three things that the Regulator can do to limit the asymmetry risk to a dispersed distributor like Ergon Energy.

The first is to have different exclusion criteria for national reporting to that used for the incentive regime. There is no reason why these need to be the same as they are used for different purposes – the former to allow a common base for comparison among the various distributors, the latter is a decision of the local jurisdiction in relation to its service quality mechanism. For

example, the exclusion clause for the incentive regime could be similar to the national criteria, but with a further clause that allows the distributor to apply for an exclusion that is a result of any large scale calamity outside the organisations control, even if it does not meet the strict criteria of number of customers interrupted or certain SAIDI limits as per the national criteria. We recommend that this be adopted.

The second is to have the relative magnitude of the penalties less than the reward: a bigger carrot than a stick. In other words, penalties should not be symmetrical because the nature of the risk is not symmetrical. We recommend that this also be adopted.

The third is to have the regime based at the very highest level of measures, for example, total SAIDI rather than for specific parts of the network. Aggregate measures, theoretically would display the least amount of fluctuation because variability tends to increase the smaller the system is defined. Linking the service quality incentive scheme to the most aggregated measures, however, does have problems of its own – it may not benefit the customers on the parts of the network that need attention. Having a mix of measures, as already proposed by the Authority’s consultants, may be the best method for dealing with this problem.

3.3. Worst Performing Feeders

As discussed previously, it is expected that Ergon Energy’s focus for the next period will be to target improvements for the worst performing parts of the network. General improvements will also be targeted, but the Authority should recognise that the cost of improving the poorest performing parts of the network is higher than general improvements through the network.

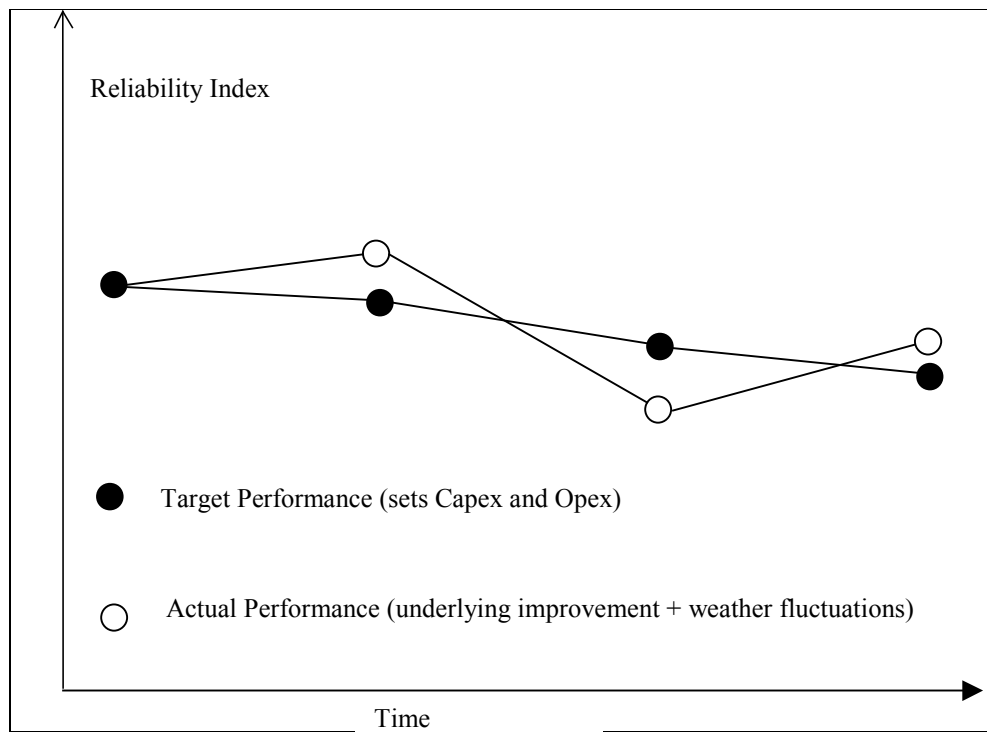
The incentive regime will need to encourage both improvements in the poorest performing parts of the network as well as general improvements, but also deal with the weather fluctuations at feeder level.

3.4. The relationship between Capex/Opex, Service Quality Targets and the Incentive Regime

The Authority’s draft decision lacks detail on these relationships and how the incentive regime will work. We will propose our programs to the Authority without these being in place, but we will require decisions on the following to finalise these programs:

- How reliability capex will be funded
- The value of the rewards and penalties
- Which measures will be adopted
- How weather induced variability will be managed
- And, whether the end point only, or each year or some rolling average is used to determine that outcome of the regulatory contract.

For example, how would the Authority treat the following outcome? The graph shows an aggregated target and actuals. The actuals fluctuate due to varying weather conditions from year to year. The last year is poorer than target, so if the contract is based on this year alone Ergon Energy would be penalised even though a downward trend is evident. The alternative is also possible, where performance might be declining, but a good year in the last year results in rewards for the distributor.



4. CONCLUSION

Ergon Energy welcomes the concept of a regulatory contract that delivers appropriate outcomes for both customers and the distributor. We will work with the Authority to deliver such a contract. We seek the Authority's acknowledgment that once the details of the contract are known, Ergon Energy should be able to modify its program in accordance with the incentive mechanism, if necessary. However, our hope is that the contract will support the balanced and researched approach that Ergon Energy will be proposing in its price service offerings. To this end, we seek the Authority's consideration of the proposed asymmetric risk limiting mechanisms.

For further information please contact Paul Asnicar (07) 3228 2138.