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By email submission
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Review of the Victorian electricity distributors' Guaranteed Service Level payment scheme, Draft decision, November 2015

Jemena Electricity Networks (Vic) Ltd (**JEN**) welcomes the opportunity to comment on the Essential Services Commission's (**ESC**) draft decision on the review of Guaranteed Service Level (**GSL**) payment scheme.

Changes to the current Victorian GSL scheme

In summary the ESC has proposed the following changes to the current Victorian GSL scheme in the draft decision:

- retain all the current GSL measures as well as introduce a new GSL measure – duration of an individual interruption¹
- reduce the thresholds of annual frequency of unplanned sustained interruptions so that GSL payments are made to approximately 1 per cent of the customers. All other thresholds remain unchanged²
- increase the payment levels for each of the GSL measures³
- align the exclusion criteria with that of the national scheme for supply interruptions due to under load shedding due to under frequency and failure of transmission connection assets. All other exclusion criteria remain unchanged⁴.

JEN supports all of the proposed changes to the current GSL scheme and agrees with the ESC's reasoning in the draft decision, except for that in support of the new GSL measure for duration of an individual interruption. This is because we consider this new measure will have a material impact on GSL payments.

The draft decision⁵ notes:

The data provided by the electricity distributors for the 2010-14 period indicates that there continue to be very few long interruptions. If the duration of an individual interruption is included in the GSL payments scheme to align with the national scheme, there are likely to be few payments made.

¹ Review of the Victorian Electricity Distributors' Guaranteed Service level Payment Scheme, Draft decision, November 2015, p 32.

² Ibid, p 46.

³ Ibid, p 59.

⁴ Ibid, p 70-71.

⁵ Ibid, p 28.

Nonetheless, we propose to include the duration of interruptions in the Victorian GSL payments scheme – it provides a stronger incentive to the electricity distributors to avoid long interruptions and aligns the Victorian GSL payments scheme with the national GSL payments scheme. As very few payments are likely to be made, the cost impact is immaterial.

For JEN, the new GSL low reliability measure (duration of an individual interruption) would have resulted in \$361,280 payment over 2011-14 period compared to the total GSL amount of \$198,810 paid over the same period. In our view, it is not an immaterial amount⁶.

Quality of supply

The ESC notes that electricity distributors have now installed smart meters for most Victorian electricity customers, and the meters should be capable of recording under and over voltage events for a period longer than a set time. The ESC follows up by stating:

..., if the Commission introduced a requirement for the electricity distributors to collect and report on the number of events experienced by each customer where the undervoltage or overvoltage limits were exceeded for more than a minute, then quality of supply measures could be introduced into the GSL payments scheme for the 2021-25 regulatory control period.

The ESC proposes to amend the Electricity Distribution Code (**Code**) to require electricity distributors to measure and record quality of supply data for those customers with a smart meter installed⁷. The ESC proposes to include an additional requirement in clause 4.2.6—that is,

“A **distributor** must monitor and record:

- for each *customer* that has a meter installed under the Advanced Metering Infrastructure program, the number of times that the *voltage* supplied to that *customer* is **outside the range of steady state voltages** specified in Table 1, **for a duration of more than a minute.**” [Emphasis added]

The above indicates that the ESC is contemplating potentially introducing GSL payments where the under and over voltage limits are exceeded for more than one minute.

JEN agrees that there is a need to measure and record quality of supply data. However, it is not clear why it believes steady state voltage excursions for a duration of more than a minute is an appropriate performance standard, given there is no guidance as to the time duration permissible between the two thresholds in the Code—that is, +10%/-6% steady state and +14%/-10% for less than one minute.

Regarding reporting of over and under voltage excursions for durations more than one minute, we make the following observations:

⁶ We have excluded the GSL payments for late appointments (AMI only) in the analysis as the AMI rollout program is now completed.

⁷ Review of the Victorian Electricity Distributors' Guaranteed Service level Payment Scheme, Draft decision, November 2015, p 31.

- Australian Standard AS 61000.3.100 stipulates that steady-state voltage compliance should be based on using 10-minute root-mean-square voltage measurements, as do international standards such as EN 50160 (widely used in Europe). The rationale is that the impact on electrical appliances due to small over or under voltages is primarily thermal effect, and such thermal effect is best approximated by integrating the voltage excursions over a period of time (10 minutes).
- Reporting and setting GSL payments based on steady state voltage excursions outside the specified voltages longer than one minute would result in over specification of the electricity distribution network, with the customers ultimately paying for this high level of performance.
- JEN proposes that the reporting should be based on time duration of 10 minutes as a proxy to 10-minute root-mean-square measurements.
- Reporting under voltage incidences of more than one minute could potentially pick up supply outage events as there is a small capacitor in the power supply of the AMI meter to keep it going for a short while after the supply is totally lost. Using time duration of 10 minutes will prevent this over reporting from occurring.
- The ESC needs to be mindful that after meter contestability starts in December 2017, new and replaced meters may not have the under or over voltage monitoring functionality.

Currently JEN's AMI meters do not provide time-series measurements of voltage readings. Instead thresholds are set for over and under voltage. When the threshold is exceeded for a set time duration (to avoid reporting of momentary transient excursions), an over or under voltage event is generated and is sent to the backend IT system. The current time duration is set to 254 seconds.

JEN can reset the time duration to one minute if required but this is expected to generate many thousands of under and over voltage events. Consequently, JEN may have to program the AMI backend IT system to poll the meters more often for events that are stored in the meter memory and this could slow down the performance of the AMI mesh communication system. Additionally, JEN will have to process the event data stored in the backend IT system more often due to the considerably higher volume of data.

In the 2016-20 regulatory period, JEN intends to upgrade the meter firmware to allow reporting of time synchronised voltage data to the backend IT system. JEN envisages sampling the voltage data every five minutes. We will use the time series data to perform a number of network functions and potentially for more granular voltage reporting if required.

JEN requests the ESC to convene a meeting of the Victorian distributors and discuss the issues identified above in relation to monitoring and recording quality of supply data and agree on the performance standard before it amends clause 4.2.6 of the Code. Otherwise the data may not be comparable and the ESC may not be able to make meaningful use of the data for introducing a GSL payment for poor quality of supply.

If the ESC would like to discuss this submission further, please me on (03) 9173 8774 or by email siva.moorthy@jemen.com.au.

Yours sincerely

A handwritten signature in grey ink that reads "Siva Moorthy". The signature is written in a cursive, slightly slanted style.

Siva Moorthy
Manager Network Regulation