



23 March 2016

The Chairman
NEM Reliability Panel
PO Box A2449
Sydney South NSW 1235

Sent by: online lodgement

Dear Mr Popple

**Definition of Unserved Energy (USE)
REL 0072**

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the definition of Unserved Energy (USE) to be used in the NEM operations.

The MEU was established by very large energy using firms to represent their interests in the energy markets. As most of the members are located regionally and are the largest employers in these regions, the MEU is required by its members to ensure that its views also accommodate the needs of their suppliers and employees in those regional areas. It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumers for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (GMRG, ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

Unserved Energy (USE) is intended to reflect the degree to which consumers are not provided with electrical energy from the wholesale market but that would otherwise be used if it were available. The MEU agrees with the Reliability Panel (RP) that USE should not include loss of supply due to network issues or where the loss of supply is related to the issue of maintaining security of the supply system.

As a first issue, the MEU points out that there are a number of different measures for the amount of energy provided at any one time (eg operational, native, as generated, as sent out, as delivered, etc). This means that greater clarity is required to set which value for energy provided is to be used as the basis for the calculation of USE. The MEU notes that the difference between each of the various measures can be as great as 10-15%. As the most common value for USE is as a percentage of total supply, using the incorrect value for the amount of energy supplied can provide a biased value for USE as the smaller the denominator used in the USE calculation, the higher the value of USE as a percentage and the greater the impacts on the market for the same volume of USE.

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The MEU also highlights that there are transmission network congestion issues that impact the assessment of USE. For example, in the recent load shedding incident in Victoria on 25 January 2019, there was significant USE due to failure of a number of generation units to provide supply¹, yet concurrently, due to constraints in the Victorian transmission network south of the VNI, there was load shedding within Victoria at the same time there were exports of electricity from the Victorian region to NSW region². It is probable that, absent the constraint within the Victorian intra-regional network, the load shedding might have been avoided or at least significantly reduced as there was generation in the Victorian region which could not be used to supply within Victoria.

This means that the load shedding was caused by the combination of two separate issues, one which was a security issue (network constraint preventing a Victorian generator providing supply to another part of the Victorian network) and the other which is a reliability issue (where there were a number of generators failing to supply). The MEU considers that issues such as this need to be reflected in the calculation of the USE.

The intent of the USE is to provide a signal that there is insufficient generation within a region to meet the demand for supply from consumers within that region. If the reason for the loss of supply to some consumers is a result of intra-regional transmission constraints, declaring there is USE when there would have been adequate generation otherwise available within the region (or even from interstate) to provide for the needs of consumers would appear to be sending a signal for more generation supply when in fact more investment in the network is required to ensure all consumers receive supply.

Perhaps the solution to that dilemma is to have different USE calculations for each cause of the loss of supply – a transport (transmission) USE and a supply (generation) USE. Using the 25th January event as an example, the calculation for USE might be better provided as X% transport USE and Y% supply USE.

The Consultation Paper also raises the issue as to how interventions (eg RERT) that include load shedding should be managed. The MEU points out that as a matter of normal operation, consumers would prefer to use electricity as and when they need to continue their operations. There are four instances where a consumer might decide that it will forego using electricity that they otherwise would have:

1. The price in the market is too high and that the end user would prefer not to use electricity and avoid the high price to reduce its overall cost of electricity.
2. The end user has contracted with a market participant (eg retailer or, aggregator) to reduce demand as a demand response due to high wholesale prices and/or limited supply
3. The end user has contracted with a network to reduce demand to avoid overloading the network

¹ This was due to failures of some generation and scheduled maintenance of others. It is of concern to consumers that any generator is scheduled for maintenance at times when high demand might be expected like a weekday in late January

² This was despite there being surplus generation capacity in the NSW region.

4. The end user has contracted with AEMO to provide RERT and load sheds on request.

In each case, the end user has elected to limit its use of electricity for other consumers to continue to enjoy their use of electricity. But effectively, there has been load shedding by them and the market has to demonstrate an insufficiency in supply that caused this need. As USE is intended to be a signal for more investment in supply, not to provide a USE value that reflects the amounts of electricity use that have been avoided, understates the value of USE as a market signal.

The MEU recognises that to identify where an end user has decided not to take supply due to price and does this without contracting that supply into the market is extremely difficult but where there is a contractual arrangement where the DSP is bid into the market by a DSP aggregator for example (as proposed in a recent rule change by The Australia Institute and others) and the amount of load shedding provided is recorded, then this amount should be made public although not included in the USE calculation.

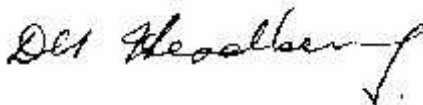
Where the load shedding is part of limiting the demand on a network, this is a security issue and should not be included in the USE calculation.

The MEU considers that load shedding as part of RERT is a market intervention that is not driven by the market price but by an inability to deliver electricity that would otherwise be used. If the inability to supply is caused by a shortage of supply (ie not caused by network congestion), then any load shedding that actually occurs is effectively unserved energy, and provides a signal that more supply is required. This means that actually dispatched RERT generation (supply) and RERT load shedding implemented should be added to the USE calculation.

The MEU notes that there are a number of good suggestions in the Consultation Paper that should be included in the calculation of the USE but the MEU considers that the observations made above should guide the changes to be implemented.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary

Yours faithfully



David Headberry
Public Officer