Major Energy Users Inc.

Australian Energy Markets Commission

Review of Distribution Reliability Outcomes and Standards

Comments on the Draft Report – National Workstream

Submission by

The Major Energy Users Inc

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Summary

The Major Energy Users Inc (MEU) supports the AEMC's efforts at developing the concept for national consistency of reliability standards. The MEU notes that the current (and different) approaches currently in use are probably not likely to achieve the best outcomes for consumers.

As a general observation, the MEU considers that the AEMC draft report provides a sound argument for the implementation of national reliability standards. The MEU has some concerns with the details of its recommendations and provides its views regarding these concerns.

In regard to the AEMC basic approach, the MEU agrees with the AEMC that the following features are critical to ensuring efficient reliability standards are set, viz:

- Transparency
- Customer preference
- Economic efficiency
- Governance
- Fit for purpose
- Effectiveness

In respect of the economic efficiency element, the MEU considers that the concept of willingness to pay combined with the ability to pay for each level of service must be appropriately recognised.

The MEU supports the AEMC approach that reliability should be set in terms of output measures rather than continue with the use of input measures.

The MEU also considers that there is no value in having both the setting of a minimum standard and a Service Target Performance Incentive Scheme (STPIS) unless there is some recompense to consumers receiving less than the minimum service level. The STPIS must remain the responsibility of the economic regulator.

Other observations by the MEU are:

- Consumers must be consulted in the development of the Value of Customer Reliability (VCR) measure used, noting that the AEMC used a VCR measure for its recent NSW assessment that is the highest VCR used in the world

- SAIDI and SAIFI are the minimum output reliability standards that should be used but other measures should be investigated

- Consumers receiving service performance lower than the minimum standards must receive a GSL payment and this GSL payment should use the VCR as the basis of its calculation

- The VCR should be used to assess whether investment in upgrading service to consumers receiving below minimum service performance is efficient

- The STPIS does not address poor service performance but is to encourage improved average performance across the network.

The MEU has provided responses to each of the specific questions asked in the Draft Report..

1. Introduction

The Major Energy Users Inc (MEU) welcomes the opportunity to provide views on the AEMC's Draft Report on Review of Distribution Reliability Outcomes and Standards – National Workstream.

1.1 Basis of a national approach

The AEMC notes that a national approach would have a number of critical features, viz:

- Transparency – where consumers being served have input into the reliability standards to be used
- Customer preference – the consumer must be involved in setting the level of the standards
- Economic efficiency – that there is a net benefit to consumers from the costs the standards impose
- Governance – where the DNSP does not set its own standards and rewards for the achievement of the standards
- Fit for purpose – where the levels of performance in a network reflect the needs of the consumers served in terms of cost and service levels achieved
- Effectiveness – where the service levels do not impose over-investment but allow flexibility to identify the lowest cost for their achievement

The MEU agrees with the AEMC that these elements provide a good basis for the development of a framework. However, in relation to the efficiency element, the MEU considers that the consumer being served must be willing and able to pay for the level of service set; that whilst a service might be seen as efficient, if the consumer considers the overall price too high, it does not meet the needs of the consumer. This element of willingness to pay is all too frequently overlooked by governments and regulators. Willingness to pay, although allied to the value to consumers of reliability, is a separate aspect entirely and relates more to the ability to pay rather than the value that might be placed on reliability.

The MEU also considers that having a national standard of performance will enable the (national) regulator to compare performance of all DNSPs on a consistent basis and assist in regulatory reviews Under the current regime, there is little ability to accurately compare output (and productivity) performance across the National Electricity Market (NEM). As the NEM operates on an incentive regulatory regime, comparing benchmark performance across all DNSPs in the NEM is a critical element of the regulatory process. The MEU is pleased that the AEMC has identified this as a key element of the national framework for this reason.

Service performance is a key driver of the efficient costs that a regulator allows a DNSP as part of its allowed revenue recovery. Currently, the setting of minimum standards (especially input standards) is carried out without reference to the costs involved with their achievement. This then exposes consumers to the potential of unnecessarily high distribution prices and minimises the ability of DNSPs to identify the most efficient method for the achievement of the service performance. The MEU is pleased that the AEMC has identified that the current approach of using input standards is likely to be inefficient.

1.2 A general overview of the approach to distribution reliability

The MEU has observed that generally, state governments (or their agencies) have tended to impose input standards of reliability with the most common being pre-determined levels of redundancy (eg N-1, etc). Failure to achieve these input performance levels has been driven by the threats of a heavy fine and/or withdrawal of the licence to operate. The MEU considers that these threats are so excessive that they are unlikely to be imposed and basically provide no benefit to the consumers that receive substandard service. But they are applied by network businesses to achieve their own ends.

With these input service standards in place DNSPs have commonly measured the outputs of their service performance in terms of:

- System Average Interruption Duration Index (SAIDI),
- System Average Interruption Frequency Index (SAIFI),
- Momentary Average Interruption Frequency Index (MAIFI) and
- Customer Average Interruption Duration Index (CAIDI) which is the relation between SAIDI and SAIFI.

Also used are:

- Customer Average Interruption Frequency Index (CAIFI)
- Customer Total Average Interruption Duration Index (CTAIDI)
- Average Service Availability Index (ASAI),
- Average Service Interruption Frequency Index (ASIFI)
- Average Service Interruption Duration Index (ASIDI), and
- Average Service Unavailability Index (ASUI)

Economic regulators also provide incentive frameworks (eg a Service Target Performance Incentive Scheme – STPIS) to provide a reward or penalty for the actual average service performance achieved. The regulators tend to use the same service performance measures of SAIDI, SAIFI and MAIFI as the basis of the STPIS.

A fundamental question then arises – is there value in setting minimum output service performance levels as well as having a STPIS? The only reason for a

minimum standard is that if any consumer receives service below that minimum it receives compensation for this poor performance from the DNSP. If there is no compensation then the MEU considers there is no value in imposing a minimum standard as well as a STPIS.

1.3 Service performance and the cost of reliability

In reading through the AEMC draft report and the commentary on submissions, there appears to be some confusion between what a STPIS provides and the value of customer reliability (VCR) and willingness to pay (WTP) concepts. It is essential that the differences between each of these are clearly understood and a common understanding adhered to.

The VCR is a tool to assess whether investment in an element of the network will produce an efficient improvement of service performance in that part of the network. This tool provides an assessment of the net benefit of the investment for those consumers affected by the investment. In its analysis of the NSW distribution investments made for reliability improvement, the AEMC calculated that there had been over-investment in the NSW networks when assessed using its assessment of VCR[1].

The STPIS provides an incentive on a DNSP to improve its average service performance and rewards and penalties are provided as a result of service performance in each year. The targets for a STPIS are developed from the network wide historic performance of previous years (usually the last 3-4 years) and the reward/penalty is calculated from the over or under performance against the historic measure. The outcome of the STPIS is that over time, the network wide service performance should improve. Consumers would expect that the targets used in a STPIS will be higher than the service levels that are considered to be the minimum level acceptable[2] and consistent with the regulatory bargain of cost for reliability. A STPIS provides a reward/penalty based on a network wide assessment of reliability.

Willingness to pay (WTP) is a separate assessment based on whether a consumer is prepared to pay more for an increase in reliability levels, and by how much. To a large extent, WTP is most applicable in assessing the extent of dissatisfaction in service performance for poorly served consumers. WTP is also impacted by the relative overall cost of electricity supplies. For example, the higher the total cost for the supply of electricity is relative to the income of the consumer, the less the consumer will be willing to pay a premium for improved reliability. Whilst a VCR approach might indicate that investment

[1] The VCR used by the AEMC was considerably higher than that used in Victoria which is already considered to be high when compared on an international basis

[2] When averaging performance, it is accepted that some consumers will receive lesser performance than the average and others receive better. Setting a minimum places a floor for acceptable service

would improve reliability, the WTP assessment might indicate the consumers are not prepared to pay for the improved reliability.

The MEU considers that the presence of a STPIS provides consumers with the best average outcome in terms of network wide average reliability. It is therefore important that the setting of the STPIS targets must remain with the regulator as part of its economic regulation process in order to reflect the regulatory bargain.

The presence of a VCR should be used by the AER as a tool for it to assess the merits of investment to improve reliability. Whilst the setting of the measure of VCR could be by the jurisdiction, the MEU considers that it is more appropriate for the regulator to set this so that there is consistency between the value used and the assessment of allowed capex that it results in, as well as with other elements of the regulatory bargain.

The jurisdiction could set the output values for the minimum reliability standards that are to apply in the jurisdiction, but these must be set at a lower level than the values used by the regulator in its STPIS. It is totally against the principle of an incentive program such as the STPIS to set the output values at the minimum level required. Minimum levels of reliability should be used to assess performance for the worst served consumers.

1.4 What consumers want in their electricity supplies

At its most basic, consumers want their electricity supplies to be available whenever needed at the level of demand needed. Whilst historic performance of a DNSP might be an indicator of what consumers might expect of their electricity supplies, their expectation for the future will be that there will be fewer failures to provide electricity when wanted. At the same time, consumers want to pay the least (ie the efficient) cost for their supplies.

One of the benefits of the input standards of reliability is that they set an expectation of the future reliability of supply. For example, an N-1 standard is likely to be statistically more reliability than an N standard and an N-2 standard provides a very high reliability. Thus, the input reliability standards have a predictive quality. In contrast, achievement of historically recorded average output reliability standards does not meet the expectation that reliability will improve over time, nor does it necessarily incentivise the DNSP to find better ways to improve reliability – it merely incentivises them to achieve historical performance. The benefit of setting a target which is higher than the historical performance does lead to improvement. Setting higher targets replicates competitive reality where continuous improvement is required merely to retain market share[3].

[3] For example, in the auto industry, consumers now expect a much higher standard of vehicle than was available (say) 10 years ago, yet they expect to pay less for it in real terms. That this has occurred is a result of competitive pressure to retain market share.

To achieve consumers' expectation for reliability, the setting of reliability on a predictive basis is needed – that is, what is the expectation for loss of supplies in the future based on what equipment is being used now and what will be the improvement in reliability in the future with increased expenditure.

Whilst most consumers accept that no electricity supply system will ever continuously provide an uninterrupted supply, it is consumers in the worst served areas that particularly deserve improvement in supply reliability. They tend to pay the same (sometimes even higher) network charges as other consumers yet get less value for their money. The regulatory bargain made on their behalf by the regulator is that the average supply reliability will be achieved for the allowed prices for the service provided. The STPIS implemented by the regulator is predicated on this average service performance across the network.

In contrast, the input standards used imply that consumers will get a minimum level of service for the prices they pay and anything better they get is a bonus.

2. The AEMC approach

There is no doubt that the AEMC has devoted considerable effort into addressing the issue of the national reliability framework and the conclusions drawn address many of the MEU concerns. The MEU fully supports the concept of a national framework for developing reliability standards and agrees with the AEMC decision to use output standards rather than input standards as the basis of reliability.

Rather than point out the elements that the MEU agrees with, the MEU concentrates its responses on those aspects where it does not agree with the AEMC approach or conclusions. In addressing these, the MEU utilises the commentary in section 1 in order to reach its conclusions on the efficacy of the AEMC approaches.

In its response to the Issues Paper on this topic, the MEU identified five aspects that needed to be addressed, viz:

1. Deterministic input measures limit the ability to innovate
2. There is duplication between the input measures approach and the STPIS
3. Consistency in approach allows better benchmarking
4. Having different exclusions in the measures for different DNSPs reduces their effectiveness for benchmarking both the actual DNSP performance and in comparative benchmarking
5. Improved network pricing structures to encourage load shifting will improve reliability

The MEU notes that the first four aspects are all considered in the AEMC approach, and accepts that the fifth aspect probably has been addressed in the AEMC's demand side participation (DSP) review.

2.1 The value of consistency

The value of national consistency cannot be over stated. National consistency in computation of standards and exemptions allowed will result in a common basis for assessing reliability outcomes and allow comparative analysis and a better approach to benchmarking between regions.

The MEU notes that the AEMC sees that there will be a net benefit from such consistency and the MEU would concur with this conclusion.

2.2 The value of reliability

The AEMC identifies the wide variety of issues that impact the value of reliability to consumers. The impact of a loss of supply is dependent on many aspects, including the time (in the year, in the week, in the day) the loss of supply occurs,

the duration of the loss of supply, the frequency of the loss, and the actual cost impact to the consumer to reflect the loss of supply are; but few of the variables that impact on the actual value every consumer will attribute to is its value of reliability.

To distil these into a single value is challenging and is therefore likely to either under or over estimate the impacts at any given point in time. Because of this, the MEU considers that VCR needs to be used for a limited number of specific purposes and where an average value is more likely to provide an adequate outcome.

The MEU agrees with the AEMC that the VCR for each region needs to be developed by using a nationally consistent approach and that its calculation should be carried out by an independent entity. The development of a consistent framework that all jurisdictions will use for the development of a VCR is therefore critical.

The MEU considers that the VCR measure used in the identification of an investment for reliability reasons is likely to be efficient. This is the main use that AEMO has for the VCR it has developed in the Victorian transmission network. The AER could also use a VCR to assess the efficiency of the capex by NSPs when undertaking reliability investments.

The MEU sees that it can also be used in setting the penalty for not providing the minimum reliability to every consumer provided with a network service. This concept is further developed in section 2.3 below.

The MEU sees that limiting the use of the VCR obviates some of the differing views introduced when assessing whether a VCR delivers the same outcome as a “willingness to pay” approach might do.

2.3 The minimum standards of service

The MEU considers that there needs to be set minimum standards of reliability. This is essential as it reflects equity and the regulatory bargain – that is, for the same set payment, each consumer of the same class can expect to receive the same minimum level of service. In contrast, governments have been setting minimum standards of service independently from the assessment of the cost of achieving this level of reliability and failing to recognise that the provision of funds for their achievement is performed in another process by the AER.

The key question is to identify what the minimum standard service level should be. The MEU considers that this can be done on a statistical basis using the actual historically achieved service levels and recognising that at all consumers should receive service levels based on the service that the bulk of consumers actually receive (eg at what service levels do 95% of all consumers receive the same reliability service or better).

The AEMC has concluded that the standards for reliability need to be set by each jurisdiction. To the extent of the setting of the minimum standard of service, the MEU agrees as this reflects the local community expectation of the value for the service to be provided and reflects the regional differences that each network has to operate within.

Currently, jurisdictions apply fines and/or licence suspension as drivers for DNSPs to provide minimum levels of service. Neither of these options delivers value to the consumers that are affected by the substandard service.

In its discussion in the draft report, the AEMC contemplates a guaranteed service level (GSL) payment so that when service levels are substandard, the consumer receives a payment from the DNSP to compensate for the substandard service. The MEU considers that the implementation of such a tool overcomes many of the issues that are debated by the AEMC in the draft report.

The MEU considers that the jurisdiction (either directly or through another party) should determine output standards as a minimum service level that all consumers served in that region are expected to receive from the regulatory bargain. This minimum service level is determined by using a national framework and therefore all consumers in the NEM are treated equally. This minimum service level is guaranteed to each consumer – a guaranteed service level (GSL).

If the service to a consumer is less than the GSL, the DNSP would pay the consumer for this failure. The value of the GSL payment could be calculated from the region wide VCR calculated and used for assessing investments[4].

The outcome of this approach is the consumers actually receiving substandard performance will then pay less for their network services than those receiving service at or better than the minimum service level. This is equitable and is a significant change from the current arrangements where these consumers receive no benefit to offset the costs they might incur from poor service levels.

The benefits of this approach are that:

- The minimum service level is related to what the DNSP is actually delivering to the bulk of consumers
- It is based on an objective measure which can vary with the overall change of service being provided across the network.
- Payment for less then the minimum service level reflects a reduction in price to the consumer in recognition that it is not receiving the same related to the regulatory bargain.

[4] A refinement of this could be where the inputs to the calculation of the region wide VCR are applied to the mix of consumers actually impacted by the substandard performance.

- The use of the VCR to calculate the GSL payment mirrors the use of the VCR to value investments and therefore is consistent by using the same values for failing to meet the standard and the costs for investment to meet the standard
- It focuses attention on the worst performing elements of the network.

The MEU sees that the VCR calculated for each region would be used to calculate the GSL payment so this provides a consistent approach across the NEM in valuing the GSL payments to be made. A refinement would be that there would be a scale of GSL payments where the extent to which service is below the minimum service level is matched with increasing levels of GSL payments.

Using the VCR as the basis for the GSL payments allows the DNSP (and the AER) to identify if an investment to improve the poor service to customers receiving a GSL payment would be efficient. If the cost of an investment to bring the poor service up to the minimum standard is more than the cost of the GSL payments, then the investment would not be efficient.

2.4 The STPIS

The Service Target Performance Incentive Scheme (STPIS) is a scheme intended to incentivise NSPs to improve their service level performance over time. The AER has recently revised this scheme but it is essentially based on an NSP receiving a payment if its current performance exceeds its historical performance or paying a penalty if performance is below the historical performance.

The STPIS is intended to reflect the concept of competitive reality that continuous improvement will bring a reward to a service provider. Because of this, it is uses the actual average network outcomes and compares these to historical performance. Whilst historical performance data is readily available, to a large extent consumers are keen for the service provider to exceed historical performance in the future and are less interested in matching past performance. This means that the service levels in the STPIS should be set on a predictive basis which recognises the value of recent and future capex in achieving reliability standards.

The MEU is concerned with the AEMC approach which seems to link the setting of minimum service standards with the STPIS. Both have an entirely different focus and should be kept separate.

Over time, the STPIS should result in improvements in the reliability across the network. These will be integrated into the minimum service levels over time by the use of the actual historic outcomes used for setting the minimum service levels.

3. Responses to AEMC questions

The MEU provides the following responses to the specific questions raised in the Draft Report. The MEU has endeavoured to keep its answers as concise as possible and refers to the commentary in the preceding sections to amplify its reasoning.

Chapter	#	AEMC question	MEU response
3	**1**	**What should be included in nationally consistent guidelines and which body should be responsible for their development?**	See comments and concepts in section2. The MEU considers that there should be a framework developed that results in the maximum of consistency across all regions of the NEM for establishing the minimum service levels and valuation of VCR. The best outcome for consumers is where the outputs are developed objectively and allow little subjectivity in the settings. An independent entity (such as the AEMC or the AER) should develop the framework and guidelines that jurisdictions are to follow in developing the minimum service levels.
4	**2**	**What are the important elements of customer consultation and what types of issues should customers be consulted on as part of the process of setting output reliability targets?** **Should customer consultation consider whether additional measures are warranted to inform customers of planned and unplanned interruptions?**	Consumers need to be consulted in the development of the VCR. Great care is needed in establishing the inputs to the calculation of the VCR as there is a tendency for consumers to identify the worst outcomes that result from a loss of supply. The MEU notes that the AEMC used the highest VCR value currently in use in the world to assess whether there had been over investment in NSW network reliability. Consumers look at their electricity supplies in a holistic way and tend not to differentiate between planned and unplanned outages. Better communication on planned outages has the potential to reduce consumer concerns. Accurate advice on the likely duration of any outage would assist in gaining greater consumer acceptance of

			outages.
5	**3**	**What are the relevant considerations for the development of a nationally consistent economic assessment process?**	The MEU has provided its views in sections 1 and 2 above
	4	**Should the jurisdictional target setter have flexibility in setting additional obligations for worst served customers?** **Are there any other considerations that should be taken into account in addressing worst served customers?** **What are the costs and benefits of imposing a nationally consistent GSL scheme?**	The MEU proposed approach addresses the concerns regarding the wost served consumers and removes from the jurisdiction any need for subjectivity that might be seen as desirable but which impact the integrity of national consistency. See the details of the MEU suggestion in section 2.3 for those consumers not receiving the minimum service levels The MEU sees that although the framework for the calculation of the GSL payment and the VCR would be consistent across the NEM, the outputs calculated for the GSL payment and the minimum reliability standards would vary across each DNSP to reflect the unique differences.
	5	**What issues would arise from adopting a consistent set of definitions and exclusions for the development of output reliability targets across NEM jurisdictions?** **Does the publication of unplanned SAIDI and SAIFI as a minimum provide a sufficient level of consistency for the purposes of benchmarking?**	The MEU does not consider that there would be any detriments that arise from the use of a consistent set of definitions and exclusions in the calculation of the various service standards used to assess reliability. The obligatory use of historical data and using a consistent approach to identifying the minimum output service levels for the majority of consumers addresses concerns that different regions have different needs. SAIDI and SAIFI are the minimum requirements for assessing service levels but the MEU suggests that other measures are examined, such as those listed in section 1.2.

			In this regard the MEU notes that the AER has recently examined a change in the way availability service levels are calculated when the outputs are very high percentages and that further improvement might not be realistically possible. The AER then addressed the issue by looking at by looking more at unavailability as the measure.
	6	**Does the proposed framework provide sufficient flexibility to meet the specific locational characteristics of individual jurisdictions while achieving the benefits of national consistency?**	The MEU considers that its proposal for setting the minimum service levels provides the recognition that there are differences in the locational characteristics and integrates these differences into the settings for each network
6	**7**	**To what extent should there be an obligation on DNSPs to meet their reliability targets in any given year?** **What options are available to provide confidence that DNSPs are seeking to meet the output reliability targets on average?**	The approach suggested by the MEU addresses this concern. Any consumer that receives service below the minimum receives a GSL payment in that year. The minimum levels are set using a historic average as the basis. A GSL payment focuses the attention of the DNSP on the substandard performance and the use of the VCR to assess whether investment in upgrading of this poor performance assists in addressing if the investment is efficient. Consumers are reimbursed directly for receiving substandard service. It is the STPIS that incentivises DNSPs to improve their average performance across the network and the GSL payment incentivises minimisation of substandard service.
7	**8**	**What jurisdictional compliance obligations should apply?** **Are there any further considerations that**	Using a set percentage of consumers receiving minimum service levels and using historical performance as the basis of achievable targets removes the subjective nature inherent in jurisdictional assessments.

		should be taken into account in the implementation of a nationally consistent incentives scheme?	The STPIS as implemented by the AER should be based on consistent calculations of average service modified with predictive analysis to increases in the service levels from investments allowed.
8	**9**	**What are the important considerations for reporting on performance against reliability targets?**	Consistency in developing the output measures is the most important consideration.
9	**10**	**Are there any further implementation considerations which should be taken into account in the development of a nationally consistent framework?**	The AEMC approach with the MEU suggestions incorporated should provide an objective approach to reliability settings for all consumers. This would also recognise that consumers with substandard service incur more costs from the poor service than those receiving the minimum level.