Major Energy Users Inc.

Australian Energy Regulator

Comments on the

AER Issues Paper

Electricity transmission
Service Target Performance Incentive Scheme (STPIS)

by

The Major Energy Users Inc

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Executive Summary

The Major Energy Users Inc (MEU) has been underwhelmed by the electricity transmission Service Target Performance Incentive Scheme (STPIS) applied by the AER in the previous regulatory round of transmission revenue reset reviews. As a result, transmission companies have not been incentivized to improve service performance, and the incidents that have occurred over the past five years have been to the disadvantage of consumers.

In this submission, which responds specifically to the detailed questions raised by the AER in its Issues Paper, the MEU makes the following general points:

- Transmission service performance represents only one element of the supply chain delivering electricity to consumers and there are important cost/benefit trade-offs.
- Because transmission service providers are monopoly businesses subject to economic regulation, consumers expect the regulator to ensure that the service provider reflects the efficient price of the service provided and is incentivized to improve its performance to the benefit of the provider and users of the service.
- Consumers consider that a well-designed STPIS will result in less congestion, less price separation between regions, less out-of-merit dispatch and greater uptime of the transmission assets when most needed.
- Improvements to the worse performing elements of transmission service should be the focus of the STPIS, rather than a focus on average performance.
- Generally, the MEU supports the AER's incentive options, but urges caution in a number of areas, including the following, where the MEU:
    - Disagrees with removing planned outages from the market impact measure.
    - Disagrees with different approaches to determination of loss of supply for different TNSPs.
    - Agrees with the AER's proposed "near misses" measures, but the MEU suggests additional elements to include inappropriate operation of the network, TNSP operator error, TNSP maintenance error.
    - Disagrees with providing exclusions in the STPIS and the MEU provides its own option.
- The STPIS should be consistent across all TNSPs, with no provision for weightings of measures to vary between TNSPs.

Further details of the MEU's views are covered in the submission.

1. General Commentary

1.1 About the MEU

The Major Energy Users (MEU), which comprises some 20 major energy using companies in NSW, Victoria, SA, Tasmania, Queensland and the Northern Territory, welcomes the opportunity to provide comments on the AER's discussion on connection charges.

Analysis of the electricity usage by the members of MEU shows that between them they consume about 5% of the electricity generated in the NEM. Many of the members are located in regional parts of Australia, some distance from the regional nodes. As such, they are highly dependent on the transmission network, as well as the distribution network, to deliver efficiently the electricity so essential to their operations. Being regionally located, those members also have an obligation to represent the views of their local suppliers and of the regionally based workforce on which the companies are dependent. With this in mind, the members require their views to not only represent the views of large energy users but also those of smaller power usage facilities and residences located near to their regional operations.

The companies represented by the MEU (and their suppliers) have identified that they have an interest in the **cost** of the energy networks services as this comprise a large cost element in their electricity and gas bills.

Although electricity is an essential source of energy required by each member company in order to maintain operations, a failure in the supply of electricity or gas effectively will cause every business affected to cease production, and members' experiences are no different. Thus the **reliable supply** of electricity and gas is an essential element of each member's business operations.

With the introduction of highly sensitive equipment required to maintain operations at the highest level of productivity, the **quality** of energy supplies has become increasingly important with the focus on the performance of the distribution businesses because they control the quality of electricity and gas delivered. Variation of electricity voltage (especially voltage sags, momentary interruptions, and transients) and gas pressure by even small amounts now has the ability to shut down critical elements of many production processes. Thus member companies have become increasingly more dependent on the quality of electricity and gas services supplied.

Each of the businesses represented here has invested considerable capital in establishing their operations and in order that they can recover the capital costs invested, long-term **sustainability** of energy supplies is required. If sustainable supplies of energy are not available into the future these investments will have little value.

Many MEU members have established on-site generation and many others are expected to invest in embedded generation, as part of risk management strategies developed in light of changing energy market conditions and security of supply concerns. Efficiency in connection agreements is thus paramount.

Accordingly, MEU is keen to address the issues that impact on the **cost, reliability, quality** and the long term **sustainability** of their gas and electricity supplies.

1.2 Transmission and the electricity supply chain.

Energy transport relies on four different parties with all contributing to the supply chain:

- Generators and the "pool" of supply
- Transmission which transports from the point of generation to the demand centres
- Distribution which transports from the main transmission points to each individual user
- Retail which ensures that the user is connected to the distribution system

The primary purpose of transmission is to provide access by generators to users of electricity and to enable the maximum competition between generators which, in turn, leads to consumers seeing the lowest possible cost for generation supply. In this regard, transmission plays a vital role in the electricity spot and contract market prices that consumers see. However, actions of transmission service provider can lead to increases in congestion, which then result in higher prices for the electricity used by consumers. At its most obvious, congestion on an interconnector will cause inter-regional price separation, with resultant reductions in generation competition and higher prices for electricity.

This means that there is a close relationship between transmission investment and market prices for power. This fact is often overlooked because of the tendency of regulators to address only one element of the supply chain uniquely at any one time and to not address aspects where actions in one element of the supply chain impact on another element.

1.3 Service performance and the supply chain

Each element of the supply chain has its own level of service performance and a lower performance in any one element affects the ultimate level of performance seen by the user. Equally, a service provider for one element of the supply chain could provide a service at an extremely high level but might

only affect marginal changes in overall service levels across all the elements. But to provide that extremely high service imposes a cost on users that is not warranted.

This means that there is a need to ensure that service performance by one element of the supply chain is not set so high so that any change in its performance has only marginal impact on the overall level of service seen by the user.

1.4 Going back to basics: the principles behind establishing a service performance incentive scheme

There are two essential elements of any bargain between a provider and a user – the cost to provide the service and the performance of the service. The lower the cost, there is an expectation that the service will be less than if the cost were higher.

Where the service provider is a monopoly, the price paid by users of the service is set after the service provider and the regulator have assessed what the service is to be and the setting of standards for the service performance. Whilst service users are invited to contribute to the debate, the final outcome is an arrangement between the regulator and the service provider.

This means that the regulator is expected by users of the service to ensure that the service provider reflects the price of the service provided. During the review of the allowed revenue a monopoly service provider is allowed by the regulator, the regulator also sets levels of service performance. In this, the regulator is guided by identifying what levels of service the provider was able to deliver in previous times and the price for the service.

In a competitive environment, users of a service exercise their own judgment in balancing service against price, with the user determining that, if the service is not acceptable, it will seek another provider. Enhanced service is likely to result in more users of the service, perhaps even at a higher cost. Increases in users, increases market share with increased cashflow and potentially higher profits; the provider with poor service will suffer lower profitability.

The higher performing provider possibly will incur higher costs in providing that service, but it nets off the increased costs against the increased prices it charges and/or increased volume it generates, with the ultimate goal of generating improved profits because users prefer the service it provides. Thus, providing improved service provides a benefit to both provider and to the user of the service.

One of the issues of most concern to consumers is that regulators have accepted arguments by service providers that when capital investment is being undertaken, service performance will reduce because of outages of assets. In a competitive environment, a provider does not have the luxury of

telling its customers that due to its investment program, there will be a reduction in performance. A customer advised of this might, rightly, take its business elsewhere – a natural and not unexpected response. Thus, a business in a competitive environment must take actions to ensure that its investment activities do not impinge on the service levels expected. This is in contrast to what regulators have allowed and this issue is addressed below in section 1.6 below

1.5 Service performance and a monopoly provider

When the service is provided by a monopoly, effective consumer responses are not available, so incentive regulation is used to impose this type of user reaction. Incentive regulation (which is the basis for energy transport regulation in Australia) provides a reward to providers which exceed the service performance levels set in a regulatory review. Equally, poor service is not rewarded. However, the imposition of incentive regulation leads to the service provider attempting to gain as much reward for as little effort as it can, which is not what occurs in a competitive environment.

The challenge of the regulator is to set a service level for the monopoly provider which reasonably seeks to balance the level of service with the cost to provide that service. To identify where this point is, first requires the regulator to identify what is the maximum level of service a user would seek. In the case of energy transport, this point may be where the user would never experience a loss of energy supply, regardless whether this loss of supply was caused by the service provider or not.

The transmission network has been built to provide very high levels of service performance, with significant back up, duplication and assets that show low deterioration over time. The corresponding benefit of such approaches is that service performance (especially availability) of transmission is very high.

A reduction of service performance by transmission is, more frequently than not, dependent on the actions of the transmission service provider itself, with their decisions for allowing new generation connections and under-sizing assets (leading to increased congestion), the timing in taking parts of the network out of service for maintenance or replacement (causing potential failures of supply or preventing some generation access to the network) and ensuring adequate preventative maintenance is undertaken (such as washing of insulators and ensuring stability of the network flows).

One major issue for consumers is that transmission service providers do not take a holistic view as to what actions they take (e.g. taking elements out of service) will impact on the cost consumers face with regard to the supply of power. Service providers are focused on the needs of their business alone, and how to minimize their costs.

Incentive regulation provides a means whereby service providers can benefit by addressing what they do, in terms of the overall market, and the benefits that could accrue to consumers. In their turn, consumers are prepared to pay more to transmission service providers if their actions result in an overall reduction in the total costs consumers face.

Thus, consumers will be prepared to increase payments to transmission service providers if congestion is reduced, especially at inter-regional connection points where cost savings are most obvious. Where outages increase the cost of power, these also need to be minimized to maximise generator competition. Out of merit order dispatch of generators needs to be avoided by maximizing transmission uptime.

In the case of outages of transmission assets causing loss of supply to consumers, these need to be minimized, but not to the extent that such reductions have a minimal impact of loss of supply at the consumer point of connection.

A well designed incentive program would ensure there is sufficient reward for a transmission service provider to want to earn the reward even if some of the reward is used to create the reward through investment in assets. The benefit of their activity must be readily calculated so a cost/benefit analysis is straightforward. From the consumer viewpoint, the benefit must be realizable and identifiable and that the payment to the transmission service provider is less than the benefit the consumer receives.

1.6 What consumers want in a STPIS

Implicit in the regulatory bargain, all consumers paying the same price for the service should receive the same level of service performance. This outcome does not always result, with some consumers getting a better than average service while others receive below average service.

The outcome of a well designed STPIS will result in less congestion, less price separation between regions, less out-of-merit dispatch and greater uptime of the transmission assets when most needed. Rather than focusing on average performance, it should result in the worse performing elements of transmission service to reach the average, while not reducing the service levels in other elements.

The rewards should be sufficient to drive the service provider to want to improve the service performance, even to the extent that it invests some of the potential reward into achieving the better performance. Where service performance falls, there needs to be a penalty so that there is further incentive for improving performance.

However, there is a down side risk for consumers with the application of too large a penalty for poor performance. If the penalty is too great, there is a risk

that the service provider will take actions to mitigate the effect of the penalty by devoting less attention to critical aspects of the business, causing greater harm to consumers.

There is a further downside risk for consumers. If the bias of the STPIS is too much towards availability, the costs for achievement of the uptime might not translate into significant improved availability at the consumers point of connection due to poor performance in other elements of the supply chain (eg in the distribution network).

Consumers recognize that capex allowances included in the regulatory reset should have a positive impact on the performance of the service provider. Therefore, a STPIS should set challenging targets for the service provider. The capital invested in the network is effectively underwritten by consumers as the revenue consumers are required to provide, provides a return on the capital and the return of the capital invested. Implicitly this means that consumers are providing funding for achieving the service performance targets.

Because of this, the targets for service performance must be challenging to the service provider. It is therefore insufficient for a STPIS to provide a reward for merely maintaining the current performance – to earn a reward the service provider must invest time and effort to generate the reward they receive, otherwise the STPIS becomes a process for transferring wealth from consumers to the service provider.

Consumers do not want service performance targets reduced unless there is a compensating reduction in allowed revenue. In many cases, the regulator has permitted a reduction in the targets because the service provider has claimed that investment activities they plan to undertake will result in lower performance, at least in the short term. This argument has been accepted by the regulator but, as noted in section 1.4 above, such an acceptance of reduced performance would not be accepted. If there is a reduction in performance there would be action taken by the customer to seek redress.

Overall, consumers expect to see the capital they underwrite lead to improved service performance and they do not expect to see a reduction in performance because there is an investment program in play.

1.7 How consumers are impacted by poor transmission performance

There are two aspects where poor transmission performance impacts on consumers:

- Congestion which increases wholesale prices
- Loss of supply and the duration of this loss of supply

The aspect of congestion is addressed above but loss of supply creates a number of impacts which are addressed in part in section 1.1. It is not just the duration of loss of supply that concerns consumers, but the frequency with which these occur. Transitory loss of supply can have a similar impact to a longer duration of loss of supply, as the time lost by the consumer in getting back to normal operation can be much longer than the duration of the outage. With this understanding, it is insufficient to assess just the duration of outrages – the frequency of these (including under and over voltage supplies) need to be measured. Whist most consumers see their supplies from the distributor's networks, it is important to recognize that transmission supplies also impact on what the distributor delivers.

1.9 Conclusion

The MEU is pleased that the AER has decided to readdress the STPIS that applies to electricity transmission and welcomes the opportunity to contribute to the AER assessment and revision of it.

There are many aspects of service performance that the AER review of the STPIS needs to address. The above commentary provides the basis for the observations and suggestions made by the MEU in addressing the specifics provided in the AER Issues Paper.

2. Commentary on the AER Approach to STPIS review

2.1 Scope of the review

The AER advises that it intends not to undertake a major review of the STPIS as the period of time that the STPIS in its various forms has been operating is relatively short. Despite that, the AER considers that the following elements of the STPIS should be reviewed. In general, the MEU agrees with the AER that this approach is reasonable. The elements to be reviewed are:

- Service component parameters (including exclusions)
- Weighting of service component parameters
- Methods for setting targets, caps and collars
- The amount of revenue at risk
- The method for establishing the financial incentive for the service component
- The method for establishing the financial incentive for the market impact component, and
- The triggers to amend the STPIS.

The AER provides a series of incentive options that need to be considered when assessing changes to the STPIS. Generally, the MEU supports these as far as they go.

In particular, the MEU has concerns that:

* The incentive option for the assessment of economic benefit needs to be clarified that the benefit and cost relate to the net benefit of consumers and not to the economic benefit of the TNSP. Unfortunately, there are embedded in the Rules, implicit incentives for TNSPs to invest in assets which might not be required to provide the service[1]. So there is a need to create a clear distinction.
* The incentive option relating to the need to reflect actions by the TNSP has some shortcomings. Consumers see the outcomes of the service performance and wear the costs associated with these. It matters little what the causes are so whether the outcome is caused by a TNSP action (or indeed inaction which should also be included) is really not of interest to consumers, the damage has occurred. Equally, it would be churlish to make a TNSP incur a penalty where they had no ability to prevent the poor service. With this in mind, the MEU sees that great care is taken to limit the types of reasons used to exclude poor service delivery

[1] The MEU is aware that the AER has proposed some rule changes that should lead to a reduction in this incentive to invest, but despite this the MEU considers that the distinction must be made.

2.2 Parameters and exclusions

2.2.1 Circuit availability

The AER proposes that circuit availability should only include unplanned outages as the impact of planned outages will be seen in the market impact measure. The MEU does not necessarily agree with this. Unplanned outages will also be seen in the market impact measure and whether planned or unplanned, outages impact consumers to the same degree, regardless of cause.

Removing planned outages from the measure removes some of the incentive to complete the task as quickly as possible so that full service is again provided or to schedule the task when there is likely to be minimum disruption to consumers. By including planned outages in the measure, there is an incentive on the TNSP to complete the task earlier than planned and at low demand times so that the measure will be provide the maximum reward.

To overcome these concerns, there could be two sub-elements of circuit availability – planned and unplanned. Further dissection could include planned and unplanned outages at high and low demand times. Such an approach would capture the impacts on consumers of all outages and allow the introduction of a zero tolerance measure for unplanned outages.

Unplanned outages can occur at critical times whereas planned outages can be scheduled for low usage times. It is both the frequency and the total duration of unplanned outages that causes the greatest harm to consumers so both should be measured and be set at zero tolerance. Planned outages that run longer than planned or run into high demand times cause greater harm to consumers. The performance measure for planned outages should more relate to the periods of time when the outage is at high demand periods.

Unplanned outages should be set with zero tolerance. The reason for this is that in most cases unplanned outages are caused by the service provider, due to inappropriate design, poor operation and/or maintenance practices or poor use of capex. All of these are within the control of the TNSP. Even the impact of some apparently exogenous causes of unplanned outages (eg cyclones and bushfires) could be minimized by better attention by the TNSP to aspects within their control.

Normalization of the measures does provide a benefit for the purposes of comparison and benchmarking. However, care needs to be taken in using the resultant comparative data as there are challenges that some TNSPs face that others don't. For example, Queensland faces cyclone

risks which other TNSPs might not whereas Tasmania faces heavy snowfall risks which Queensland doesn't.

2.2.2 Frequency of loss of supply

From a consumer viewpoint, loss of supply and its frequency of occurrence is just that – loss of supply. For one TNSP to determine that loss of supply and its frequency can be measured differently to another TNSP, overlooks the fact that consumers have lost supply.

The MEU does not consider there needs to be different approaches to setting this measure by different TNSPs

2.2.3 Additional parameters

The MEU notes that the inherent reliability of transmission does lead to very high levels of availability and few outages that cause loss of supply to consumers. In this regard, it must be recognized that this is a direct result of the decisions for building in redundancy **that is paid for by consumers.** Therefore, consumers have an expectation that there will be few, if any, outages.

Because consumers fund this redundancy, they have an expectation that the TNSP will implement processes that ensure that availability will be continuous and there will be no loss of supply. The AER proposes an approach which monitors the ability of the TNSP to avoid unplanned outages and prevention of loss of supply. Such an activity by TNSPs is to be expected and this replicates the approach that competitive enterprises must implement so as to ensure their service performance is maintained.

The AER proposes that the STPIS be expanded to measure "near misses" where the actions of the TNSP have the potential to cause loss of supply to customers (consumers and generators). Whilst a "near miss" does not impact on consumers, increasing frequency of these would indicate that actual loss of supply event is increasingly more likely. This measure would provide a forward looking indicator as to the TNSP's ability to maintain its performance levels into the future.

The AER suggests that:

- Failure of protection and control equipment
- Failure to meet reliability standards
- Incorrect operational isolation
- Network transfer capability measures

could all be new measures to be part of a "near miss" element of the STPIS. The MEU agrees with all of these and suggests that it could be expanded to include:

- Inappropriate operation of the network. For example, if a dual circuit supply had one circuit out for maintenance, the operation of the remaining circuit should be such that the TNSP must allow no action to impede the full capacity of the remaining circuit[2].
- NSP operator error. Operators should be adequately trained, and if an operator makes an error that causes an outage that would result in the potential for loss of supply, such an action should be part of the "near miss" measure.
- NSP maintenance error. During maintenance, errors can occur that lead to the loss of availability of backup circuits, which in turn increases the risk of an outage of supply to consumers. Such an error needs to be measured as they can be avoided by proper training and procedures.

Overall, the MEU strongly supports the concept of the "near miss" performance measure being included in the performance measures.

2.2.4 Exclusions

In section 3.3 (page 16) the AER notes that there may be a need to introduce additional parameters and cites:

> "The infrequency of interruption to supply events on transmission networks makes transmission reliability incentive schemes contentious. For example, when there is an interruption to supply the financial impact on a TNSP can be relatively large. This can lead to significant debate over whether the event should be excluded from the scheme."

The MEU notes that the TNSP may see that the outage might impact their reward under an incentive scheme, but what needs to be recognized is that the loss to consumers (and even generators) will be many times more than the TNSP's reduction in its reward. It is because of this that the MEU considers that the incentive scheme should have few (perhaps no) exclusions as this focuses the TNSP attention as to the impact its performance have on consumers who have no means of

[2] Such an action occurred recently on the 500 kV dual circuit to Heywood in Victoria. One circuit was out of service for maintenance, but the TNSP permitted commissioning activities of a generator connected to the remaining circuit. Such actions caused the circuit to operate at less than normal capacity causing significant commercial harm to a number of consumers connected between the generator connection point and into South Australia.

recovering their losses. In a competitive environment, a service provider is judged on its delivery, not its excuses.

Drawing on experience from the competitive environment, there are no exclusions that relieve a provider from the expectations of its customer, although they might relieve the provider of the contractual obligations. Regardless of this, a customer still expects the performance of its supplier to meet its needs.

With this in mind, a TNSP can expect to be paid for providing its services despite the customer not receiving the service. Under a revenue cap approach, regardless of its performance a TNSP recovers its regulatory allowed revenue. The incentive scheme is intended to reward the TNSP for exceeding its performance. The customer pays the reward because it has received better than expected service.

This raises a very basic question – if the customer received no improved performance due to issues that would be excluded from the STPIS, why should the customer pay a reward to the TNSP? It has received no benefit which is intended to fund the reward. As noted earlier, the customer only measures the TNSP performance at its point of connection so excuses for not performing do not pay the costs for loss of supply the customer has incurred, and especially do not fund the reward.

The MEU considers that the STPIS should have no exclusions. This will incentivise the TNSP to put into practice many of the tools it does have to minimize the disruptions that cause outages for customers. The MEU does consider that some of the outages cannot be attributed to actions, inactions or lack of foresight by the TNSP. The way to address these is for the STPIS to have no exclusions but to allow the AER to have the power to assess specific outages where the TNSP can prove to AER satisfaction that some or all of the outage was not due to its action, inaction or lack of foresight. This proportion of the impact of the outage would be excluded from the STPIS calculation.

For an example, under the current approach, a bushfire would be classed as a cause beyond the control of the TNSP and the outcomes of the bushfire would be excluded from the STPIS. However, this bushfire might cause an outage of a circuit in only one part of a region yet supply might still be provided to all by other circuits but actions of the TNSP prevent these from being used. So the loss of supply might be preventable and the bushfire would not be accepted as a basis for not preventing supply, although the loss of availability on the specific circuit impacted might be excluded. Thus, for this example, in the measure for the loss of supply duration and frequency of outages the AER would not allow exclusion of the impact of the bushfire, but the measure of availability would be allowed to exclude the bushfire impact on the circuits directly affected.

This approach by MEU provides a number of benefits, addressing both the concerns raised by the AER of inconsistent approach across all TNSPs, and removes the lack of clarity from the definitions. The MEU supports achieving these as, by having no exclusions permitted, there are consistent definitions and a removal of any lack of clarity.

The AER then suggests that exceptions could be addressed more appropriately than now, in one of three ways:

- A definitional approach which is the same as currently applies but with the definitions made more clear and definitive.
- A statistical approach which recognizes that only significant events outside the control of the TNSP should be considered for exclusion
- A service based approach which has features similar to that proposed by the MEU where no exclusions apply but there is some discretion available to the regulator and which considers whether the TNSP could and did implement a strategy to minimize the impact on consumers.

The MEU agrees with the AER that the first option has limitations as it becomes more prescriptive and therefore more difficult to manage and opens up greater opportunities for "gaming".

Options 2 and 3 have many points of similarity both between the two and with the MEU preferred position. Neither have the ability to reflect the impact of large but infrequent occurrences, which the MEU preferred position does, by providing the AER with some discretion. The MEU accepts that the use of discretion reduces regulatory certainty but by applying a "no exceptions" policy, there is certainty unless the TNSP can convince the AER that its discretion is required. Whilst in the early years, the TNSPs will want to test the AER, over time, the AER decisions will form the basis of guidance as to how discretion is used.

A fundamental question becomes whether the STPIS exclusions should be driven by large but infrequent occurrences, or whether the STPIS should be driven by the need to address every occurrence, which might be considered for exception.

Examination of what occurs in the competitive environment provides guidance. As a matter of course, there are no exceptions, but when the occasional but large occurrence happens, it is treated on its merits at the time. The aspect as to whether the provider takes steps to minimize the impact is also an important aspect that the competitive industry assesses when considering some relief from assessing the provider's performance. This is a key element of the Ofgem approach –

acceptance of large infrequent occurrences as an exception, but there has to have been an attempt to mitigate the impact.

When the MEU developed its approach it considered that the Ofgem approach was the closest to what occurs in the competitive world, but the decision to build in acceptance of a threshold range about the historic mean introduces unnecessary complexity and bias. Removal of the threshold range around the historic mean really reflects how the competitive world operates, especially when it is recognized that the TNSP has a guaranteed base income from its revenue cap.

Despite not having a guaranteed base income around which the business improves (or loses) its base income, the competitive world makes little allowance for poor performance regardless of cause, and there is no maximum penalty that can be imposed, unlike the STPIS, which is limited to a maximum penalty of 5% of MAR. **The obverse of this is that the TNSP will get, as a minimum, revenue of 95% of its MAR, regardless of how poor its performance is.**

2.2.5 STPIS reviews

The MEU considers that the STPIS should be consistent across all TNSPs. This means that applications by individual TNSPs to vary the STPIS at its revenue reset, must be prevented. Equally, the STPIS should be reviewed occasionally to ensure that it provides the outcomes expected of it.

Such an outcome can only be achieved if the STPIS is reviewed on a regular basis; a similar process to that used for setting WACC parameters.

2.3 Parameter weightings and setting targets

2.3.1 Methodology

The AER expresses concern that as TNSP approach 100% availability, setting the target and range becomes problematical. To overcome this, the AER suggests that the new target might be set based on "%unavailability due to unplanned outages" as this becomes mathematically easier to administer. Whilst the AER sees this issue as a mathematical issue, from a consumer viewpoint consumers want the target of 100% availability regardless of what causes the outage.

The MEU agrees that to set a bonus in terms of achieving in excess of 100% availability (the natural limit) is absurd, but consumers still want to see that TNSPs are incentivised to achieve 100% availability. This might be achieved by setting a target marginally under 100% with an asymmetrical penalty/bonus achievement arrangement, which reflect

perhaps one standard deviation for the maximum bonus but two or more standard deviations for the maximum penalty.

The MEU does not disagree that a new measure (%unavailability from unplanned outages) is a useful measure to include in the STPIS, but the MEU still considers that 100% availability is what consumers would like to have, always accepting that there is a tradeoff between price and achievability of this goal.

2.3.2 Weightings

The MEU agrees with the AER that there is no sound rationale that weightings of measures should vary between TNSPs. TNSPs have all had at least one cycle of regulatory review and so the issue of whether there is data available should no longer be an issue, If it is an issue, then the TNSP must be required to provide sufficient data for a sensibly balanced STPIS to be applied.

Whilst each TNSP has different issues to contend with (eg cyclones in Queensland and snow in Tasmania) the issues for consumers do not vary significantly between regions – consumers want the transmission system to continuously deliver power as and when it is needed and for the transmission system enable the maximum availability of all generation in order to minimize out of merit dispatch and thereby ensure the most efficient dispatch of generation.

When the issue of weightings is looked at from the consumer perspective (which the Electricity Objective requires) it becomes clear that there should be consistency of parameter weightings across all TNSPs. If the proposal that the STPIS is standardized and there is a regular STPIS review, then at these reviews, the weightings can be varied if there is a compelling reason to do so.

In setting the weightings, these should not depend on whether a particular TNSP sees as an opportunity to significantly improve on one measure – such an approach is a form of regulatory gaming! The MEU considers that the weightings should reflect the needs of consumers and what consumers see as a delivered product. So the weightings should reflect the consumers' needs rather than the desires of the TNSP.

As a statement of principle, the MEU considers that greatest effort must be put to remedying the worst performing elements of the network, rather than seeking to improve performance on well performing assets. This means that there needs to be a measure which looks at the worst performing elements in the network and the STPIS provides a stimulus to improving this performance. So the measures should include an element where the TNSP advises its (say) 10% historically worst

performing feeders and substations, and incentive to improve this measure is an element of the STPIS.

The AER mentions the recent AEMO studies undertaken for the Victorian region with regard to the Value of Customer Reliability (VCR). The MEU has been active in the AEMO review of VCR and is of the opinion that great care should be taken of the work done in regard to VCR studies. It is pertinent to note that the AEMO studies have shown that the VCR they have calculated has increased consistently and dramatically in one decade and this is in stark contrast to the outcomes of overseas studies which show (as would be expected) great stability in the measures of VCR.

Despite this disclaimer, the study that the AER refers to implies that consumers would prefer to see more frequent but shorter duration outages. The MEU has some sympathy for this view but notes that taken to extreme, the assumption would be that consumers would prefer to have an extremely high number of very short outages – this is an incorrect assumption.

There is a balance needed between frequency and duration. One very long outage can be as damaging as many short outages.

For instance, many industrial and commercial operations are very sensitive to short term failures of supply and the time to restart can take many hours causing significant losses of production[3]. So, to look at allowing increasing frequency of outages can result in greater damage to consumers. It is suggested that the survey which delivered these results occurred after a long outage where significant damage occurred. The outcome that would be expected is that consumers would have preferred a shorter outage and the option for this is greater frequency. One only has to ask consumers in some countries where outages are frequent (perhaps a number each day) which causes considerable disruption to see if less frequent outages of longer duration would be preferable – the answer is invariably yes!

The MEU considers that too high a frequency is just as damaging as too long a duration and equal weight on both the measures should apply.

The MEU agrees with the AER that incentives need to be reasonably high powered to ensure the desired outcome is achieved. Increasing the number of measures as is proposed would result in the “power” of the incentives being weakened. The MEU has long been a supporter of the amount at risk (with compensating increased rewards) being made

[3] Even at the residential level increasing frequency is concerning. Just resetting all electrical appliances after an outage is time consuming – and irritating.

larger. It was the lead voice in the debate where the AEMC decided to allow up to 5% of MAR to be exposed to the STPIS.

The MEU therefore agrees that rather than weakening the incentives if more measures are added, the amount at risk should be increased.

2.4 Setting the revenue at risk

The decision to set the maximum revenue at risk at 1% of MAR was flawed from the outset. During the development of the Chapter 6A rules, this issue was discussed at length. The MEU was a strong supporter of a higher revenue at risk setting of 5% and considered that 1% provided a significantly underpowered STPIS.

Under the underpowered STPIS there has been little improvement in performance measures in the recent cycle with some targets actually being set lower than historic performance. This indicates to the MEU that the STPIS has been too underpowered to achieve the desired outcomes. It would appear that the AER has come to a similar view.

A review of the recent annual reports of a number of TNSPs shows that their pretax profits[4] are in excess of 25% of revenue. Having 1% of revenue at risk will make little difference to an organization with pretax profits in this range. Even if the maximum revenue at risk of 5% of revenue is applied and the entire amount at risk is lost, the pretax profits will still be handsome by any stretch of imagination!

This simple comparison provides adequate support for the AER to increase the power of the STPIS to the maximum of 5% of MAR with little risk to the long term financial viability of TNSPs, but the sums involved would be expected to lead to significant increases in performance.

2.4.1 Economic measures of outages

The AER suggests that one option is to use the VCR concept (in use for network planning purposes) as a surrogate for the cost to consumers for the loss of supply when caused by the TNSP. Whilst this concept has some appeal, there are two significant aspects of this approach that need to be recognized:

- The values proposed by AEMO for VCR would appear to be flawed and considerably overstated. The MEU has made this point in responses to the current AEMO review examining the potential for using VCR more widely than in Victoria. A simple calculation using the market price cap – MPC – (which is ½ to ¼ of proposed VCR

[4] Pre-tax profits are used because any losses incurred under the STPIS will not incur a tax liability.

levels) shows that the full 5% of MAR at risk could be used and absorbed, using the VCR approach, in just a few hours.

For example, Powerlink has a recorded average duration outage of 11-12 hours pa[5]. Powerlink would have a revenue at risk of about $40m in each year[6]. Based on this value, the average outage duration and MPC as the cost of loss of supply, there would have to be only a state wide loss of 300 MW to absorb the entire amount at risk.

- The use of VCR is not symmetrical. VCR is intended to be a cost for the loss of supply but it is not a value reflecting an increase in supply. Therefore, using VCR to set a target is inappropriate although it has relevance to the loss of supply.

On balance, the concept of applying a cost incurred by consumers as the method of imposing the incentive has some appeal (as it reflects the cost impact faced by consumers) but the MEU considers that great care is needed in assessing the value to be used in such an option.

The MEU considers that applying a rate per MWh loss of supply would be challenging to develop and apply as the assumptions that are needed to develop a cost per MWh are difficult and would have to bear little relationship to reality. Further, calculating the number of MWH actually lost requires a number of assumptions, such as would the usage rate at the start of the period truly reflect the usage rate throughout the period? The calculation could not use the rate of usage at the end of the outage period because this would reflect actions that consumers had to take to get back to their normal operations. Because of this the MEU considers that using average time off supply is a more accurate measure to develop an incentive regime.

As an option the MEU suggests that for a loss of supply event, (say) 1% of MAR is at risk. The premium for the achievement of zero loss of time would be calculated from the historic performance decreased to reflect a performance enhancement. The same rate to increase the performance to zero minutes of loss of supply would be used as the discount for each minute of loss of supply. This would mean that if the historic performance level was achieved there would be a penalty equal to the expected performance enhancement.

For example, in the case of Powerlink, there would be about $8m at risk for this measure. If Powerlink achieved zero minutes off supply, then it would earn an $8m bonus. As the current performance is about

[5] See figure 5.6 in Powerlink 2011 application for a revenue reset

[6] See Powerlink annual report 2011

10 hours off supply and if the required enhancement of performance is 10%, then if the actual duration off supply is 9 hours, then Powerlink would receive no bonus but incur no penalty. The rate of loss of bonus would be $14.8k per minute off supply. The full penalty would be incurred if the hours off supply reached or exceeded 18 hours.

This approach provides both the incentive to improve performance and has some relevance to what the consumers see.

A refinement of this approach could be that the averaging technique used[7] could reflect a number of parameters, such as numbers of customers affected (as now), the power usage on the elements at the time of the loss, the length of the elements involved in the loss of supply, and the value of the substations affected. By incorporating these additional elements into the averaging technique, this would provide some bias as to the cost of the loss of supply consumers would incur.

2.4.2 Asymmetrical incentives (efficiency frontier and near-miss)

Where a TNSP is approaching its "efficiency" or "performance" frontier there is a need to provide an incentive to maintain its performance or even marginally exceed it. It is unrealistic to expect higher performance. Equally, unless there is an incentive to maintain performance, it is likely that performance will deteriorate.

Providing a penalty only payment for lesser performance than a "perfect score" does not recognize the costs that are incurred in maintaining the "perfect" performance.

In section 2.4.1 the MEU suggested an approach which provides a specific payment for providing high performance and from this point there is erosion of the payment as performance deteriorates. Such an approach provides the funds for maintenance of excellent performance with an associated penalty for lesser performance.

The MEU considers that the concept it provides in section 2.4.1 is a sensible balance of incentives when perfect performance is achieved and should be maintained.

A "near miss" does not in theory impose a cost on consumers, but it is an indication that the NSP needs to lift its game to avoid a loss of supply. As there is no explicit benefit to consumers by avoiding a "near miss", there can be no financial benefit to consumers from avoiding such incidences.

[7] Currently the system averaging (SAIDI) is based only on the number of customers served and the durations each is affected by

The number of near misses is more an indication of poor performance practices by the NSP and as consumers are paying the NSP for providing good practices within the opex and capex allowances, there is an expectation that there will be no "near misses".

When considered in this way the AER proposal that there be only a penalty regime for "near misses" is a sound approach to providing an incentive to the NSP to ensure that there are good practices used throughout the operation.

2.5 Market impact incentive

The MEU is fully supportive of there being an incentive tied to the cost consumers are exposed to by out-of-merit dispatch caused by outages of critical elements of the networks and by constraints in the networks. The MEU considers that transmission is the element that ensures there is maximum competition between generators; reduced competition between generators leads to increased power prices. Because of this the MEU supports there being a market impact incentive scheme to minimize outages and congestion.

Consumers have always considered that TNSPs have significant control over the amount of constraints that occur in the networks, whether this stemmed from the timing of planned outages or poor decisions about new generation connections. That the AER has identified that TNSPs have indeed a greater impact on the frequency and extent of incidents of constraints supports the intuitive view that such was the case.

That TNSPs had such a significant impact on congestion that they were able to "game" the incentive scheme supports the AER assessment and the MEU intuitive view. The MEU was also not surprised to see that the TNSPs had been successful in "gaming" the incentive scheme – the MEU has seen many examples where the energy market participants have used their power to "game" the regulatory system, and this is another example of such activity that the AER needs to recognize in its role.

The MEU considers that as the TNSPs have demonstrated that their actions are the leading cause of constraints in the networks, there needs to be both a positive incentive to limit the frequency and extent of constraints and price separations, as well as a negative incentive to ensure continued attention to the issue.

From the data provided by the AER, the overwhelming share of constraints was attributable to planned outages. The data also provides a guide that better planning and practices leading to shorter outages, do result in a positive benefit to consumers from the impact of planned outages. Knowing that the TNSP has the ability to significantly reduce the market impacts through better

planning and practices, the imposition of a penalty for not doing so is an appropriate response.

Unplanned outages can be related to less than optimal performance by TNSPs but, as noted earlier, a consumer sees the same impact of an outage regardless whether it is planned or unplanned. The MEU therefore does not consider that there should be different treatment between planned and unplanned outages causing constraints.

The MEU supports the concept that the market impact incentive needs to be symmetrical, with both a bonus and a penalty applying. This will encourage the TNSPs to ensure that the minimum disruption will result to the market by maximizing the uptime of the transmission system when it is most needed.

The MEU considers that a symmetrical incentive scheme needs to analyse the data before and after the introduction of the market impact incentive scheme. As well as providing an appropriate target for each TNSP, it will provide an indication as to the range of the outcomes that such an incentive achieves. This range can be measured in terms of the number of standard deviations from the target that achieve the optimum result. At the same time, it is important to recognize that (like the example in section 2.4.1) the maximum (cap) or minimum (collar) does not occur over too little or too much activity. This means that in the early stages of setting a symmetrical incentive for market impact, that the penalty or bonus is not achieved too readily. Once there is more data (probably by the next STPIS review, there will be more "hard" data on which to refine the target range for the cap to collar.

The MEU considers that some modeling of actual data is required to assess the number of standard deviations about the target value that are required to balance these competing concepts.

2.6 Timing

The MEU considers that the penalty or bonus payment needs to be made as close as possible to the time of the assessment. There appears little reason to change the current approach of including the payment in the financial year following the measurement of the performance over the calendar year just completed.

3. Responses to the Specific AER Questions

The Major Energy Users Inc. provides comments to each of the questions raised in the AER's Issues Paper on Electricity Distribution Network Service Providers Service Target Performance Incentive Scheme.

Comments below address each question raised in the AER Issues Paper and the comments in section 2 provide a more detailed discussion as to why the MEU has responded to each question the way it has.

#	Question	MEU views
1	Are the AER's current STPIS objectives satisfactory? Should the AER have any other STPIS objectives in mind when considering amendments to the STPIS?	No. The AER should also recognize that transmission is only part of the supply chain and that increasing service performance in transmission (and the costs associated with this) might deliver little additional benefit to consumers because supply performance in other elements of the supply chain deliver significantly less service performance than transmission.
2	Are the evaluation criteria proposed for assessing incentive options appropriate? Are there any other criteria which should be used?	No. The criteria have to relate to consumer cost/benefit, and exclusions need to be expressly limited.
3	Should the transmission circuit availability parameter still be included as a measure of network reliability?	Yes.
4	Given the overlap between the circuit availability and the market impact component, should the circuit availability parameter focus on unplanned outages (with or without interruption to supply)?	No. Both planned and unplanned outages affect consumers, so both are needed. The measure could be subdivided into planned and unplanned at high and low demand times.
5	Should the target for unplanned outages be zero rather than an average of past performance	Yes.
6	What measure should be used to measure unplanned outages – should it be number of events or total duration (with individual events capped at say seven days)? Should	Unplanned outages need to reflect both the duration and the frequency of the outages. Both measures should be set at zero. Planned outages should reflect the period of time when the outage

	the measure be normalised based on the number of transmission elements, to make comparison between TNSPs possible?	occurs at high demand times. Whilst each measure should reflect the challenges confronted by each individual TNSP, normalization is useful as it provides a tool for comparison and benchmarking.
7	Should the definitional thresholds for the loss of supply event frequency parameters differ across TNSPs? If so why?	No
8	Is there merit in including these 'near miss' (or any other) additional parameters in the STPIS?	Yes. Suggested additional parameters are detailed in section 2.2.3
9	Should the AER apply a common approach to defined exclusions across all of the TNSPs? If not, why not?	Yes
10	To the extent that the current scheme parameters are retained can the current definition of third party outages and force majeure events be more clearly defined? If not, are the AER's principles appropriate and do they need to be developed further? If so, what amendments should be made to these principles?	Yes. The MEU considers that no exclusions should be permitted. See comments in section 2.2.4
11	Do stakeholders consider the current exclusions are sufficient, If not what other exclusions should be considered?	No. No exclusions should be permitted but the AER should have the power to allow ex post exclusions to some of the measures. See section 2.2.4 for more details.
12	The AER seeks stakeholder views on the defined exclusion approach to applying exclusions	The MEU does not consider that this approach reflects the same pressures as competitive business sees and does not consider it to be appropriate
13	Is the adoption of a statistical approach for the transmission STPIS appropriate?	Whilst this approach has some merit and is an improvement on the current or defined exclusion approach, its application does have some downsides and it does not reflect what competitive business sees.
14	Would a statistical approach be appropriate for only some	This is a possibility but an overall consistent approach as proposed

	parameters or subparameters (e.g. would this approach be appropriate for the loss of supply parameter)?	by the MEU is more reflective of what competitive business sees.
15	The AER would also welcome views on approaches to developing adjustments to account for parameters, which measure events that are by their nature very irregular and rare under this statistical approach.	The MEU considers that this approach has limitations in addressing large infrequent occurrences
16	The AER seeks stakeholder views on whether a service performance threshold approach for transmission STPIS is appropriate.	The MEU considers that this approach is preferable to the other two approaches but the threshold should be zero. See section 2.2.4 for more detail of the MEU preferences and why the MEU considers these to be appropriate.
17	The AER would also welcome views on approaches to developing exclusions to account for parameters, which measure events that are by their nature very irregular and rare.	The MEU approach considers that the Ofgem approach to these is sound – that is, they should be treated on their merits and the degree to which actions by the TNSP have been taken to mitigate the impact. See section 2.2.4 for more detail as to why the MEU prefers its option.
18	Should the current process for proposing amendments to the STPIS be removed?	Yes
19	If the current process for proposing amendments is removed, should it be replaced with a regular review of the STPIS by the AER?	Yes. The process should be similar to that used for setting the WACC parameters
20	What approach should be adopted for setting the cap for TNSP performance when the cap set at two (or one) standard deviation from the mean would exceed the natural limit?	The MEU agrees that the bonus element should not require exceeding the natural limit of 100%. The MEU considers that where there is high availability and where more than one standard deviation would exceed the 100% limit, the bonus/penalty could be set asymmetrically. See section 2.3.1 for more comment.
21	Is there any justification for why weightings should vary across TNSPs for existing parameters? If not, should the weightings be locked into the scheme? Should these	No. The weightings should be set at each STPIS review rather than with each regulatory reset. Weighting should be standard across all

	weightings be the same across all TNSPs?	TNSPs
22	Should greater weight be put on measures which reflect longer interruptions than shorter interruptions?	No. See discussion in section 2.3.2. There is a balance needed between frequency and duration.
23	Would weights that are less than 10 per cent of total revenue at risk result in weak incentives, if so should a TNSP's revenue at risk be increased such that no individual parameter or sub-parameter weight is less than 10 per cent? Also, if a less than 10 per cent weighting results in weak incentives, does this also apply to sub-parameters?	Yes. To overcome this, the amount at risk should be increased. By definition a sub-parameter comprises with other associated sub-parameters, the main parameter. Therefore sub-parameters could have a weighting of less than 10% of the total but each sub-parameter should have a weighting of more than 10% of the main parameter.
24	Should more weight be given to interruptions to supply rather than duration of the interruption consistent with the distribution STPIS? Do customers place greater value on reducing the number of interruptions than on the length of the interruption?	In a distribution networks, consumer outages are caused by no, low voltage and high voltage circumstances which increase the frequency of trips at consumers points of connections. Often transient losses are incurred as switchgear changes over circuit re-establishing supply. Therefore frequency of supply losses becomes a greater issue in distribution networks.
25	Should the existing measures be given equal weight, if so why? If not, which measure should receive the most weight and which measure the least weight?	No. The measures should be weighted on their relative importance to providing consumers with a perfect uninterrupted supply, with a bias to improving the worst performing supplies as seen by consumers.
26	Is there sufficient data to apply a positive weighting to parameters which previously had a zero weighting?	If there is not, then why not. Every TNSP has had at least one regulatory review and all are aware that the STPIS is a rules requirement. If a particular TNSP has decided not to measure its performance under the current STPIS guidelines, then that was its election. If there is no data for a particular TNSP, then the actual average of the measures for all TNSPs could be used as a target for the TNSP lacking the data. .

27	Should the AER increase the revenue at risk for TNSPs under the service component of the STPIS?	Yes. The current 1% is underpowered. Even 5% of MAR at risk will impact less than 20% of a TNSP pretax profit.
28	Should the financial incentive incorporate the economic cost of outages for parameters and sub-parameters which measure loss of supply?	In principle the MEU supports the concept but the MEU considers that care is needed in using such an approach. See comments in section 2.4.1
29	Do stakeholders support any of the approaches outlined above for incorporating the economic cost of outages into the financial incentive?	No, but the MEU has developed a refinement based on the concept implicit in the first option. See example in section 2.4.1
30	Is the VCR an appropriate measure to base calculations on the economic cost of outages? If not, what methodology should be AER use to determine the economic cost of a loss of supply?	No. VCR is too large and would quickly use up all of the funds at risk. The MEU considers that the average duration time is a better measure, especially if it is refined to include some other parameters in the development of the averaging. See comments in section 2.4.1
31	Should the parameters which have reached the 'performance frontier' be subject to an asymmetric penalty-only scheme?	No. There is still a need to maintain the high performance and there is a cost to do so. The MEU considers that there needs to be a reward for attaining and maintaining the "perfect" performance with a loss of this reward as performance below the "perfect" level deteriorates.
32	If 'near miss' parameters are included, should these parameters be subject to a penalty only scheme?	Yes. See comments in 2.4.2
33	Taking into account the proposed 'near miss' parameters in section 3.3 of the issues paper, what should the size of a penalty for the occurrence of a 'near miss' measure be set to properly incentivise TNSP behaviour?	There is a need to ensure that the power of the incentive is large enough to generate the desired outcome. So making the incentive too small will not result in an improvement in taking steps to exclude "near misses". Equally the "near miss" does not impose costs on consumers and therefore should not be as high powered as incidents which do cause consumers loss. On balance, the MEU considers that, if the total amount of MAR at risk is (say) 5%, the total amount at risk for near miss should not be less than 0.5% of MAR or more than 1% of MAR. That is, the total "near miss" amount

		at risk should be between 10-20% of the total amount of MAR at risk.
34	Should the financial incentive of the market impact component of the STPIS be symmetrical?	Yes. See comments in section 2.5
35	If the financial incentive is symmetrical, how should the AER determine the appropriate caps and collars	See comments in section 2.5
36	Does this misalignment between financial year revenue resets and calendar year measurement lead to any perverse outcomes?	The current approach meets the need to make payments as close as possible to the time over which they occurred. The MEU supports continuing this approach.