ELECTRICITY TRANSMISSION NETWORK owners

Draft Service Target Performance Incentive Scheme

Response to AER

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Response to Draft Service Target Performance Incentive Scheme

1. Introduction and Overview

This submission is made on behalf of the Electricity Transmission Network Owners Forum (ETNOF), consisting of ElectraNet Pty Limited, Powerlink Queensland, SP AusNet, TransGrid and Transend Networks Pty Limited. Collectively, this group own and operate over 40,000 km of high voltage transmission lines and have assets in service with a current regulatory value in excess of $9.1 billion.

ETNOF recognises the substantial work done by the AER in recent years on the Market Impact of Transmission Congestion (MITC) and welcomes the opportunity to respond to the draft Service Target Performance Incentive Scheme (STPIS) incorporating the new MITC parameter.

ETNOF generally supports the inclusion of a parameter in the STPIS to reflect the market impacts of transmission congestion. However, ETNOF also notes that the application of an MITC parameter is a new and, as yet, untried concept which is unlike other service standard incentive parameters adopted in other jurisdictions. Having regard to the untried and unproven nature of the parameter, ETNOF believes that the AER should be cautious in its application of the measure given that real revenues will be at risk.

ETNOF considers that:

- the market impact component of the scheme should be limited to planned outages as other measures within the scheme already capture unplanned outages;
- targets should be set such that there is a reasonable prospect that a TNSP's investment in changing practices to improve performance will be returned in the form of incentive payments, in order for the scheme to function effectively;
- the market impact component of the scheme should be in the form of a bonus only as this part of the scheme delivers outcomes that are difficult to predict and is affected by many factors outside a TNSP's control. This is considerably different to the remainder of the scheme;
- the size of the incentive for the market impact component should be based on realistic targets, consistent with other measures in the scheme;
- systems to collect and validate the data for the market impact component should build upon the work undertaken to date and be developed cooperatively by TNSPs, the AER and NEMMCO. Furthermore, there would appear to be significant potential efficiencies in moving to a single NEM data management system to support this scheme as it matures;
- the market impact component of scheme should be structured to ensure it truly captures the intended market impacts (such as spot price impacts), and not merely reflect aspects of the market design, such as generator bidding incentives; and
- exclusions to the market impact component should include any abnormal market operating conditions.

The following sections set out ETNOF's views in more detail.

2. Application to Planned Outages Only

In both the Issues Paper (June 2007) and draft STPIS, the AER indicated that the MITC parameters should only apply to planned outages of the transmission network. ETNOF supports the view that the MITC incentives should be limited to planned outages.

This is a reasonable position given that the existing STPIS already adequately covers unplanned outages on the transmission network through measures such as circuit availability and average outage duration.

However, the MITC parameter proposed to be incorporated into the STPIS is intended to encourage TNSPs to schedule network outages in a manner that minimises the impact on market participants[1]. In other words, it aims to provide incentives to TNSPs to plan and coordinate outages to minimise congestion. Therefore, to achieve a properly integrated set of incentive measures, it is appropriate that the MITC parameter only apply to planned outages.

3. Method for Setting Targets

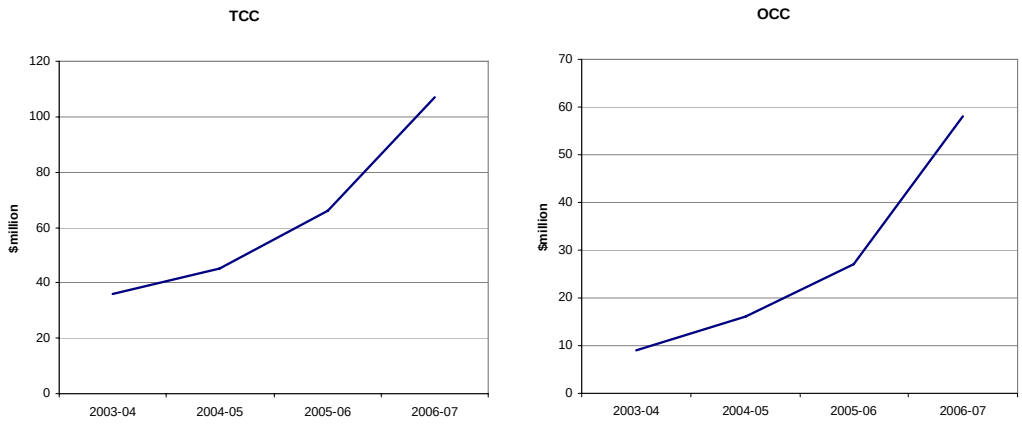
The Explanatory Statement accompanying the draft STPIS acknowledges that there has been an upward trend to date in the occurrence and impact of constraints in the NEM, and that many of these constraints are unrelated to transmission network outages or events. ETNOF considers that this is to be expected under a regulatory framework which encourages network service providers to attain high levels of asset utilisation before investing in new assets.

The AER considered three options to address the upward trends and proposes to adopt its preferred approach of setting performance targets at a constant value, based upon average historical performance over a previous period. This approach is based on an underlying assumption that there is scope for TNSPs to improve performance with appropriate incentives[2].

ETNOF has several concerns with the assumptions that underpin the AER's proposed method for setting targets. These include:

1. The occurrence and impact of constraints in the NEM is increasing at an exponential rate, reflected in trends in the Total Cost of Constraints (TCC) and Outage Cost of Constraints (OCC)[3]. ETNOF notes that the number and duration of outages is not increasing at a similar rate. A significant proportion of this increase in market impact appears to be associated with other market conditions.

[1] AER, *Draft Service Target Performance Incentive Scheme (Incorporating Incentives Based on the Market Impact of Transmission Congestion) Explanatory Statement*, November 2007, p22.
[2] AER, *Draft Service Target Performance Incentive Scheme (Incorporating Incentives Based on the Market Impact of Transmission Congestion) Explanatory Statement*, November 2007, p28.
[3] *Indicators of the Market Impact of Transmission Congestion: Report for 2006-07*, November 2007, pp3-5.



2. A TNSP could reduce its MCC as a percentage of the TCC or OCC, and yet the MCC could still increase. This is because the exponential trend in TCC and OCC tends to overshadow the reductions that may be made by TNSPs in scheduling outages.

3. In response to concerns raised by the participants, TNSPs are already taking a number of measures to reduce market impact of their outages, such as:

   - planning outages at times of the day or seasons where they are unlikely to cause a market impact;
   - reducing the requirement for outages by adopting different maintenance procedures such as live line techniques;
   - coordinating outages so that multiple packages of work are undertaken on one outage, rather than making the same impact several times;
   - consulting with market participants when planning outages; and
   - notifying participants of outages well in advance to allow participants to minimise the impacts of the outage through the contract market or other actions.

   Thus a number of gains envisaged to result from the introduction of the market impact measure are already being realised. Therefore, the scope to improve performance further is diminishing.

The issues raised above are further exacerbated by establishing targets for a regulatory period based upon historical data older than two years before the start of that regulatory period, at best. The use of historical data may be useful, but only to the extent it is able to provide a reasonable forecast of future performance.

In addition, when explaining the proposal of a bonus only incentive scheme, the Explanatory Statement states that, “if the performance targets turn out to be too difficult for the TNSPs to beat, the TNSPs are not penalised.” While this is true, and of key importance, it is also true that if the performance targets turn out to be too difficult for TNSPs to beat then the scheme fails to provide any incentive at all to TNSPs.

For the scheme to provide an incentive, the target must be set such that there is a reasonable prospect that a TNSP's investment in changing practices to improve performance will be returned in the form of incentive payments. Such a structure meets the purpose of the scheme and the intent of the National Electricity Rules (Rules)[4] to:

> (1) provide incentives for each Transmission Network Service Provider to:
> ……
>
> (ii) improve and maintain the reliability of those elements of the transmission system that are most important to determining spot prices;

For this reason, having the design of the STPIS 'lock-in' the use of the arithmetic average over a five year historical period as the basis for setting targets is unlikely to provide robust incentives on TNSPs. ETNOF considers that TNSPs should be able to propose a formulation for setting the MITC parameter targets as part of the revenue proposal process based on the specific circumstances presented to the AER at that time.

While the scheme can require that five years of historical data be used as input to the proposal, ETNOF considers it important that the scheme be flexible enough to accommodate the fact that TNSPs operate in different environments, will be at different stages of the network investment cycle and, will inevitably be at different points relative to the efficiency frontier. Consequently, each TNSP will not have the same capacity to respond to incentives. For example, if the forward works program is similar to that in the previous regulatory control period, a formulation more reflective of observed trends could be appropriate. However, if the forward program is significantly larger or smaller the targets could be adjusted to reflect this. Thus the potential impact of the forecast works program on network congestion can be reflected in the targets. This approach is consistent with the principles for the STPIS in the Rules[5].

4. Form of the Incentive

ETNOF supports the proposal for a bonus only scheme, noting that the market impact component of the scheme creates a high business risk for TNSPs. A bonus only scheme is justified for a number of reasons:

- Firstly, there are several factors outside a TNSP's control that can significantly influence the outcomes of the scheme. These include the behaviour of market participants, the unplanned outage of other transmission network elements during planned outages, and errors in forecasts on which bidding is based.
- Secondly, there are pragmatic limitations on the level to which TNSPs can improve while still meeting other market obligations, as some outages do not lend themselves to the type of behaviour the AER is proposing that TNSPs adopt.

[4] AEMC, *National Electricity Rules*, 6A.7.4(b)(1).
[5] AEMC, *National Electricity Rules*, 6A.7.4(b)(4).

- Thirdly, TNSPs will incur costs associated with many of the initiatives expected under the scheme. These costs may include additional consultation with market participants in planning outages, additional network analysis when planning outages and overtime labour. Consequently, it is appropriate that TNSPs be incentivised to undertake this additional expenditure.
- Fourthly, market participants consider there are significant financial gains available to the market from the incentives this scheme will place on TNSPs. With a very high ratio of benefit for energy users compared to potential bonuses available to TNSPs it is therefore appropriate that the scheme is structured as a bonus only scheme.

ETNOF therefore supports the proposal for a bonus only incentive scheme as it removes the significant risk inherent in other aspects of the scheme's design while still providing benefits to users. ETNOF also considers that such an approach is prudent given the:

- uncertainty and limitations associated with the data upon which the MITC measure is based;
- the untried nature of the measure and weight assigned to this measure; and
- the unproven capability of the measure to accurately capture a TNSP's efforts to respond to the incentive.

5. Size of the Incentive

As the AER acknowledges in its Explanatory Statement, it would be unrealistic for TNSPs to be able to reach the cap and attain the full incentive payment. ETNOF questions the rationale for introducing an incentive that is not realistically achievable, whether symmetric or asymmetric. In order to provide a meaningful incentive to TNSPs ETNOF believes the scheme should be capped at 1% with an incentive curve matching Figure 4 of the Explanatory Statement.

This approach is consistent with the other measures under the scheme, where caps are not set on the basis of unrealistic and unachievable 'perfect' results (such as 100% circuit availability).

6. Data Collection and Data Issues

According to Clause 5.2 of the scheme, TNSPs are required to collect data and report on all parameters including the market impact component.

A substantial amount of development has already been undertaken by TNSPs, the AER and NEMMCO to provide and validate this data. ETNOF considers it important that any future systems build upon this work to provide efficiencies in the reporting and review process under the scheme. Specifically, there would appear to be significant potential efficiencies in moving to a single NEM data management system to support this scheme as it matures.

However, ETNOF notes that further development of existing systems that provide and validate this data will be required. In particular, a clear relation between each binding constraint and corresponding planned transmission network outage is required. ETNOF considers that such further development work should be undertaken cooperatively between TNSPs, the AER and NEMMCO. Once the systems and the scheme the systems support have matured then further consideration should be given to where these systems can be managed most efficiently in the long term.

ETNOF members note that there are discrepancies between the data published in the Explanatory Statement[6] and their own calculations from source data. To date, there are three main reasons for this:

1. the data published by the AER includes some constraints that bind when there is no network outage. For example, when a lightning storm approaches a double-circuit line, NEMMCO applies the same constraint as would be applied if there was an outage on one of the two circuits. However, this constraint is not due to a network outage and, as such, should not be included in the data;

2. some constraints have been incorrectly allocated to TNSPs. For example, in situations where an outage in one network causes a constraint in another network; and

3. some outages for operational security have been included in the data.

These discrepancies lead to concerns regarding decisions that have been made upon the basis of this data in designing the scheme and conclusions that may have been drawn from this data. ETNOF would be pleased to discuss these issues further with the AER.

7. Form of the Parameter

The AER proposes that the Marginal Cost of Constraints (MCC) be used as the incentive measure to reflect the market impacts of transmission congestion. This parameter measures the shadow price of the binding outage constraint and reflects the change in the NEMDE objective function if the constraint were to be relieved by 1MW. As noted during earlier consultations, this is a measure of bidding behaviours in the NEM and may not correctly reflect the economic cost of transmission congestion.

Specifically the MCC may appear quite high even when spot market prices remain within their normal range. This can occur when intra-regional constraints provide incentives for some generators to bid at -$1000/MWh to try to get dispatched. In these circumstances the MCC only reflects a market impact on one side of the market - the generation side. The customer side will have seen no impact from the outage.

[6] AER, *Draft Service Target Performance Incentive Scheme (Incorporating Incentives based on the Market Impact of Transmission Congestion) Explanatory Statement*, November 2007, p27, Figure 1.

As the shadow price of the constraint does not always reflect impacts on the spot price[7], ETNOF believes the scheme should be modified to properly account for these situations. One possibility would be for a dispatch interval to be counted as "0.5" when the MCC is greater than a threshold, and to be counted as "1.0" only when the MCC is greater than a threshold and the spot price is also above a separate threshold (say $300/MWh).

8. Exclusions

Appendix C of the scheme provides for two types of exclusions to the market impact parameter: force majeure and constraints that are invoked to manage the reclassification of non-credible contingency events. ETNOF proposes that the following additional exclusions be added to Appendix C:

- any outages shown to be caused by a fault or other event on a 'third party system'- e.g. intertrip signal, generator outage or customer installation;
- constraints due to the following causes:
    - manifestly incorrect input events;
    - occurrences in which a constraint applied by NEMMCO does not accurately reflect market conditions; and
    - occurrences of a dispatch error by NEMMCO.
- times during which the normal market operations are modified such as:
    - periods of mandatory restriction;
    - periods of market intervention by NEMMCO; and
    - periods in which the market is suspended or price caps are in effect;
- non-prescribed transmission assets;
- forced outages, as the market impact parameter primarily seeks to influence a TNSP's outage planning practices. There are already parameters in the existing scheme to incentivise TNSPs to address the cause of forced outages;
- outages for personal safety; and
- outages for operational security.

9. Glossary

For the avoidance of doubt, ETNOF suggests that *transmission network* be italicised in Appendix C and have the following definition included in the glossary:

> "has the meaning set out in the National Electricity Rules."

[7] AEMC, *National Electricity Rules*, 6A.7.4(b)(1)(ii)