NATIONAL GENERATORS' FORUM

Energy Retailers Association of Australia Incorporated

14 July 2003

Mr Sebastian Roberts
Acting General Manager
Regulatory Affairs – Electricity
Australian Competition and Consumer Commission
PO Box 1199
Dickson ACT 2602

Dear Mr Roberts,

RE: DRAFT TRANSMISSION SERVICE STANDARDS GUIDELINES: GENERATORS' AND RETAILERS' JOINT SUBMISSION

Please accept these comments as representative of jointly the Energy Retailer's Association of Australia and the National Generators' Forum. These two groups comprise 30 separate organisations and represent the vast majority of existing and intending participants of the NEM. A list of the organisations is contained in appendix 1.

This submission therefore represents the collective and consensus views of the majority of NEM transmission users.

It should be noted that this submission represents the first occasion where the NEM's peak generator and retailer lobby groups have combined to present a united voice in an industry consultation. This is a reflection of the importance and commonality of users' desires for best-practice transmission service.

We acknowledge that the choice of measures for service performance are subject to many points of view in regard to practicality, controllability by the TNSP and to the level of incentive. We support, therefore, a process of gradual evolution in these measures from those currently proposed by the ACCC to ones that are measurable, practical and that will foster efficient operation and investment in the NEM.

Our submission therefore suggests some immediate improvements to the scheme proposed by the Commission but in the main proposes a framework that will, in time, support a market based approach to TNSP performance incentives.

The TNSPs established a working group last year that met with generators and retailers to discuss the market impacts of TNSP actions. We consider that those meetings were successful in developing some understanding of each parties' concerns. This group could be used, augmented by some generators and retailers, to refine these measures and to develop further suitable measures.

Yours sincerely,

(Transmission by e-mail)
Tony Wood
Chair,
Energy Retailers Association of Australia

(Transmission by e-mail)
Grant Every-Burns
Deputy Chairman and Acting Chair,
National Generators' Forum

NATIONAL GENERATOR FORUM
AND
ENERGY RETAILERS ASSOCIATION OF AUSTRALIA
JOINT SUBMISSION REGARDING THE
ACCC DRAFT TRANSMISSION SERVICE STANDARDS GUIDELINES

The Energy Retailers Association of Australia (ERAA)[1] and the National Generator Forum (NGF)[2] commend the ACCC in making the first steps in defining service standards for transmission network performance in the NEM.

Performance standards, in conjunction with the National Electricity Code and the jurisdictional regulatory instruments, define the level of service that is to be provided for the payment of network charges. They are, therefore, an essential part of the access and pricing regime for networks and should be implemented as soon as practicable.

It is also important to note that transmission assets in the NEM have a major influence on the setting of energy/ancillary service prices and new investments in generation and demand side. With continuing growth in customer demand this influence will undoubtedly grow creating increased intra-regional congestion. This congestion will need to be addressed by efficient investment in the market by generation, transmission, demand side or other initiatives. Hence transmission investment and operation cannot be separated from the market but rather are part of the deregulated market for electricity. It is therefore essential that TNSP performance measures and incentives ultimately reflect the market impact of TNSP activities.

The ERAA and NGF therefore consider that the standards should be:

- directed at market outcomes that benefit electricity users
- applied during periods of system stress when performance matters
- universally applied to all TNSPs both in scope and level
- focused on best practice in the industry
- subject to FM provisions that are consistent with general industry practice.

A focus on market outcomes

It is important that performance standards for TNSPs are linked to activities that matter to the market as a whole. While we acknowledge that the ACCC feels unable to implement standards of this type at this stage, it is essential that the ACCC continue to work towards standards which have a market focus. As a first step, standards of this form should be developed, measured and reported. Once a reasonable set of measures are developed and tested for a period they could be incorporated into the active set of service standards.

The transmission sub-group of the NGF have already identified some potential approaches the market impact measures, which are supported by the ERAA. These measures:

- promote transparency on transmission capability,

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[1] The Energy Retailers Association (ERAA) is an amalgamation of the National Retailers Forum (NRF), the Retail Directorate of the Electricity Supply Association of Australia (ESAA) and the Retail Committee of the Australian Gas Association (AGA). The ERAA represents the core of Australia's energy retail organisations and is the peak body representing energy retailers in Australia.

[2] The National Generator Forum is the peak body representing Generators in the NEM. It was established prior to the commencement of the NEM and assisted in its final development.

- measure performance in terms of the dollar impact on the competitive market, and
- are based on signals that are consistent with efficient transmission operation and utilisation.

The key focus of these measures is to examine what aspects of TNSP activities that are controllable, actually impact the market and can be measured effectively.

The proposed measures are:

- Market impact – a market measure that assess how the operating regime and management practices of the TNSP work to ensure the capability of the network is managed within this rating envelope. The market impact report should be published on a quarterly basis and used as input to a benchmarking process.
- Asset rating – a measure of the operating envelope for the transmission system provided to NEMMCO by the TNSP. This is established based on an internal TNSP rating standards or philosophy. This philosophy should be published initially and then reviewed and updated on an annual basis and used as input to a later benchmarking process to establish a "fair and reasonable" or industry best practice for establishing current ratings for TNSP's.

Explanations of the two measures are attached as Appendices 2 and 3.

Measuring what matters

For a large proportion of the time the network does not impact the market or if it does the impact is small. For example, the planned outage of a network element in non-peak periods should have little impact since the market is informed and can take steps to adjust. Non-planned outages or outages during times of peak loads are more likely to impact the market. The service standards should therefore be biased towards times of system stress.

In Victoria and South Australia, for example, stress conditions only occur in the afternoons of less than ten hot days per year. In NSW and QLD and Tasmania, winter peaks may also constrain the network but extreme conditions nevertheless typically occur on fewer than twenty days per annum. The current draft standards have the potential to perversely disadvantage TNSPs who schedule their activities outside of peak periods since out of hours work can often take longer leading to a larger actual outage. This action would however be superior to a TNSP that takes a shorter outage during peak times.

Some circuits are also more important to the system than others. Key circuits failures have the potential to impact the service of a large number of customers for long periods while other circuit failures have much lower impact. The focus for measurement should therefore be impacts not circuits. This issue would be addressed if the ACCC adopts the proposed market impact measure or similar customer impact measures.

Biasing performance measurement to periods of system stress is consistent with the pricing methodology in Chapter 6 of the Code where participant's use of the system is measured for a number of peak days (since those days show the need for additional capacity). We would therefore suggest that the current standards be measured only during the 20 days of peak system demand, determined ex-post.

A fuller explanation of potential perverse outcomes of the current measures is contained in Appendix 4.

Immediate improvements to the current ACCC standards

The current set of standards is not applied consistently to all TNSPs and not at all to VENCorp. This approach was explained by the ACCC to be the result of the available data from the TNSPs. The ERAA and NGF take the view that the full range of standards should be applied to all TNSPs responsible for the provision of services. We also consider that the standards should be applied to VENCorp rather than SPI Powernet since VENCorp is the provider for the shared network in Victoria and contracts SPI Powernet to provide the service. Where the data is not currently available for a TNSP the TNSP should be required to collect the data.

The standards are also applied at different levels to each TNSP. We believe that different standards should not be used for regulated businesses unless there is a clear difference in physical characteristics of the network.

While we recognise the transmission network has to deal with different and locationally specific issues, those issues are generally known in advance of construction and allowed for in the design of assets. Hence the costs that the ACCC bases its revenue determinations upon already contain an allowance for difficult locations.

It would be double counting to both allow for the additional cost of achieving performance under difficult conditions, through a revenue determination, and also soften the performance standards to allow for these same difficult conditions.

We therefore contend that the service standards should be set so that the best performer in each category has a small improvement to make during the term of the standard and the remainder have a real target. This could be achieved by setting each standard at the 80th percentile for the beginning of a defined period and increasing the standard to the 110th percentile by the end of a period. This approach will allow good performers to be immediately rewarded while still requiring improvement during the regulatory period. We acknowledge that this approach may be difficult immediately but must be applied when the market-based measures are incorporated since the market based performance outcomes should be the same in all locations.

The Force Majeure clauses proposed are much too wide and potentially capture all unplanned unavailability. This means that the reward/penalty proposed only applies to planned outages. This can be perverse: incentivising a “breakdown” rather than “preventative” approach to maintenance. We propose the following in order of preference:

- The Outage Duration measure is applied to all outages,
- The Outage Duration measure is applied only to the most likely outages, or
- A commercially based electricity market specific FM clause be applied.

The key focus of the FM provisions should be that they cover only events that the TNSP could not reasonably be expected to have planned for or where they do not exert some control over the events. A fuller coverage of the FM approach, including a revised definition is contained in Appendix 5.

The value of the incentive

The propose value of the incentive, at +/-1%, may not be sufficient to motivate a fundamental change in behaviour. There is, however, a more fundamental issue in that the targets in their current form will be easily achieved by the TNSP's with little effort, so the effect of increasing them may be to simply improve returns without enhancing performance.

We would therefore only propose increasing the targets if they truly have a market focus as we have proposed in this submission.

Summary

In summary, the ERAA and NGF consider that the ACCC has made a good first step. The ACCC should, however, immediately:

- apply the standards universally, using a benchmarking approach rather than individually as currently proposed
- measure the standards during periods when the network performance is important to the market
- revise the FM provisions.

The ACCC should then immediately build on this start by developing standards, in conjunction with the TNSPs and market participants, that relate as directly as possible to the market outcomes of TNSP actions. The approaches suggested in Appendices 2 and 3 should be developed immediately and measured during the current revenue reset periods with a view to implementing them fully for the next set of resets.

Appendix 1

Membership and Contact Details of ERAA & NGF

The following organisations are members of these groups [and support this consensus submission]:

ActewAGL Retail
AGL Energy Sales & Marketing
Aurora Energy
AusPower
Country Energy
CS Energy
Delta Electricity
Ecogen Energy
Edison Mission Energy
ENERGEX Retail
Energy Australia
Energy Brix
Enertrade
Eraring Energy
Ergon Energy
Hazelwood Power
Hydro Tasmania
Integral Energy
Intergen
International Power Synergen
Loy Yang Power
Macquarie Generation
NRG Flinders
Origin Energy
Snowy Hydro Limited
Southern Hydro
Stanwell Corporation Ltd.
Tarong Energy
TXU
Yallourn Energy

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Note: The Energy Retailers Association (ERAA) is an amalgamation of the National Retailers Forum (NRF), the Retail Directorate of the Electricity Supply Association of Australia (ESAA) and the Retail Committee of the Australian Gas Association (AGA).

Appendix 2

Explanation of the proposed Asset Rating Performance Standard

A fundamental issue in the regulatory regime is the level of service provided in return for the right to levy a regulated revenue. This issue has not been addressed in the Commission's determination but is fundamental in assuring efficient capital investment.

In developing performance based criteria for incentivising TNSP's it is clear that there is no industry standard for determining what is "industry best practice" in rating transmission assets. It is also clear that the regulatory processes for determining the ratings and the revenue are separate unrelated processes, one is carried out between the TNSP's and NEMMCO based on performance criteria established in the Code administered by NECA, the other between the TNSP's and the ACCC.

The objective of this measure is to determine over time a uniform philosophy or "good electricity industry practice" in rating transmission assets. In the short term the measure will allow benchmarking or comparison between TNSP's. In the long term this measure will allow the regulator to assess the cost of the assets relative to their rating and move to a regulatory regime that determines the TNSP revenues in a way that is contingent upon good practice in allowing a high utilisation of these assets by the market. The objective is to drive allocative efficiency by attempting to emulate a competitive market for transmission investment.

Rating of Transmission Lines and Equipment

The NEC Chapter 5 empowers the TNSP to set the maximum rating for its plant and equipment. Each Transmission Network Service should advise NEMMCO of the maximum current that is permitted to flow through all apparatus in its transmission network for different weather conditions. This maximum current is called a "current rating" of the transmission line or item of equipment. The Code also provides a general test for performance of NSP's (where otherwise not specified) that is "fair and reasonable".

It is clear from the Code and from observation of the practice of establishing current ratings that the current rating is established by each TNSP based on their own custom and practice or philosophy for rating equipment and tolerance for risk. It is not clear how the TNSP's view, or take into account the risk imposed on other market participants that these decisions impose. These philosophies are not transparent and in practice may result from practices adopted from the time when the electricity industry was characterised by state based vertically integrated monopolies and may not be appropriate for the competitive market. It is also clear that there is no consistency between the TNSP's as the basis for establishing ratings varies from state to state.

The "asset rating" measure

It is clear that different TNSP's have different perceptions of risk and different approaches to asset rating and there is currently no driver in the regulatory approach to encourage TNSP's to optimise the cost benefit ratio of an asset. This is in part because the regulatory process is not integrated with the establishment of ratings.

The NGF and ERAA propose that each TNSP be required to publish their philosophy for determining the rating of their assets.

This should include at least their approach to:

- maximum current ratings
- different current ratings under various
  - ambient weather conditions
  - seasons and or time of day
- emergency current rating and lengths of time for emergency current ratings
- determining the temperature that will not materially affect the safety of their plant or persons
- the purchase of network ancillary services

It is proposed that the asset rating measure will be used to determine industry best practice in establishing asset ratings, through a benchmarking process.

We acknowledge that a TNSP may not have a single policy or philosophy in relation to determination of ratings. At some locations, the rating philosophy will be driven by the requirement to satisfy customer reliability, while in other locations where the market will be directly impacted by the rating a different philosophy will apply.

It is not proposed that this measure be incorporated into the TNSP revenue setting process at this stage either to determine appropriate asset values but asset ratings established by the TNSP are relevant to the "market impact" measure.

Appendix 3

Explanation of the "market impact" measure

Transmission constraints

The SKM Report considered that the number of hours per year that each of intra-regional and inter-regional constraints were binding was an important measure. In the Draft Decision Appendix A, this measure has been removed other than for TransGrid where, whilst listed, there is no weighting factor and no proposed target.

The NGF and ERAA view is that the exclusion of any measure of binding constraints avoids the most vexed issue for market participants ie. the inability to deliver their product to the market or obtain their product from the market.

In optimising the overall costs and benefits of the network it is essential that at least the TNSP's have an understanding of the impact of their decisions on market participants in the deregulated market. We are proposing as a first step the implementation of a measure that is simple to determine. This measure will provide feedback to the TNSP to allow optimisation of the cost benefit of an asset based on best practice asset ratings driven by a benchmarking process balanced with an understanding of the market impact of investment and operating decisions. We have called this the "market impact " measure.

Calculation of market impact

It is straightforward for any person with access to NEMMCO's market data to objectively calculate of the market impact of a transmission constraint. For each dispatch interval NEMMCO publish a "shadow price" for each binding constraint, which represents the marginal impact upon the dispatch engine's objective function (maximising value of trade) for each MW that the constraint is released.

The product of this shadow price (in $/MWh) and the reduction of transmission capacity from its nominal capacity[3] (in MW) represents the true market cost (ie how much more the power system cost to run) due to the reduction in capacity for that dispatch interval. This measure also inherently includes the increased cost of ancillary services caused by the constraint.

Whilst it is accepted that use of such 'market impact' as a performance measure is premature, it is considered that the recording and reporting of such events is an important first step with actual implementation left to another day. This applies not only to measuring past performance for the incentive payment/penalty but also, for interconnectors, to flag the need and benefit of interconnector augmentation.

Application of the measure

Whilst measurement of the market impact is readily achievable, we agree that identifying the causer of the reduction from nominal capacity is often difficult and subjective. Therefore we accept that applying a "market impact" performance incentive on transmission revenues is unrealistic at this time. Nevertheless, we think there would be significant advantages in obligating TNSP's to investigate these impacts and publish the outcomes, preferably in a quarterly report.

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[3] The nominal capacity is already defined and published by NEMMCO for inter-connectors in their settlement residue auction information memorandum. For intra-regional constraints the nominal capacity can be determined from the TNSP's own limits manuals.

We suggest that whenever the market impact (calculated by the above method) of any reduction in transmission capacity exceeds $100,000 on any one day, that the relevant TNSP is obliged to publish at least:

- the amount of the market impact, and
- what it believes was the cause of the reduction, and
- whether the rating applied was specific to the actual ambient conditions at the time, and
- whether any opportunities for the use of a short-term rating had been utilised.

Also where this process reveals significant cumulative market impact from one cause, the relevant TNSP should be also required to investigate and report to the market and the Commission on the most economic means to mitigate the market impact.

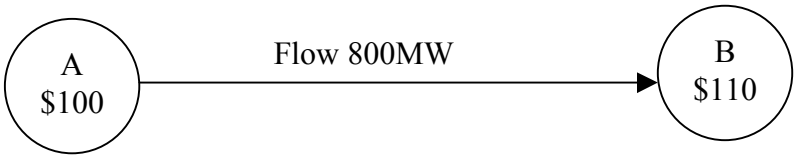
We recommend the investigation and publication is performed by the TNSP, not NEMMCO, so that the TNSP will become necessarily familiar with the market impact of their operational decisions. At present TNSP's can and do claim disinterest in market outcomes, deferring their expertise to NEMMCO. As they become more familiar with their market impacts over time, this could become the basis for a workable incentive system or an augmentation justification.

In the case of interconnector constraints we recommend that both TNSP's who provide assets that support the interconnector publish the result and their individual opinions as to the cause of the reduction. This could highlight issues of poor coordination.

Worked Example

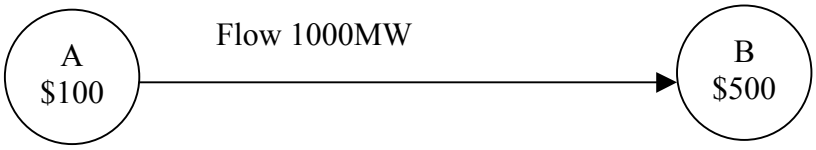
A simplified example of how this mechanism works on interconnectors is shown below. It works identically upon intraconnectors, as the calculation does not require the regional price difference.

A: Unconstrained case at nominal capacity 1000MW.



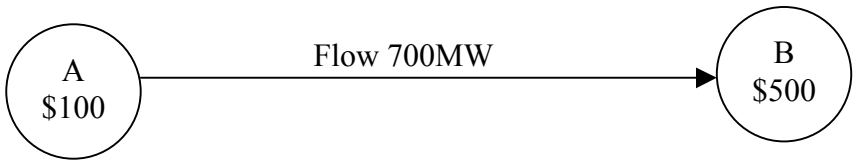
The price in the receiving region is inflated by $10 only due to losses. The “A to B” transmission constraint however is not binding and therefore its shadow price is zero. A minor derating of the line at this time would have no market impact.

B: Constrained case at nominal capacity of 1000MW



The published shadow price of the “A to B” constraint is now $500-$100-$10(losses)=$390/MWh. For each extra MW the constraint were released it would improve the value of trade by $390-this is a natural output of the dispatch engine. However as the flow is at nominal capacity, no further investigation is required.

C: Constrained case with de-rated line (nominal capacity 1000MW)



As the line has been derated by 300MW and the shadow price still $390/MWh, the market impact of whatever caused the derating is simply 300MW*$390/MW=$117,000 per hour. The TNSP would be required to publish this event.

Appendix 4

Examples of potential perverse outcomes from the current standards

Example 1

A TNSP requires access to a transmission line on Snowy to VIC interconnector during summer for 16 hours of protection work by a single technician.

Approach 1

The TNSP schedules a single 16 hour outage, with an hours switching at each end, on a 35 degree day. This gives a total circuit unavailability of 18 hours. Significant market disturbance would occur, with price separation between VIC and SNOWY and expensive gas plant run in VIC to replace cheap coal/hydro plant constrained off by the outage. The market is further exposed to high risk of human error due to site personnel being subjected to unnecessary pressure and excessive work hours.

Approach 2

The TNSP waits for a couple of cool days, then schedules a two day outage, with two 8 hour shifts with a 10 hour break and 2 hours switching at each end. This gives a total circuit unavailability of 28 hrs.
Market disturbance is minimised with little or no price separation as VIC load is supplied by domestic base load plant. Potential for human error is minimised by working reasonable hours in a controlled manner.

Conclusion

Under the ACCC proposed performance measures, the low impact approach 2 would incur a 10 hr greater penalty than the high impact approach 1.

Given that the majority of transmission outages are scheduled so as to minimise impact on the market, the ACCC performance measures may actually drive a deterioration in outage scheduling practice.

Example 2

Under the proposed performance standard, reliability of circuits are considered equally, or, mildly differentiated between “critical” and “non-critical”. This does not reflect the vastly varying criticality of circuits.

A Blackwall-Mt England line tower collapses due to runaway bulldozer. The Tarong constraint binds during peak periods resulting in 10 hours of VoLL in QLD over the two days required to restore the circuit. Tens of millions of dollars in wealth transfer occurs.

Under the ACCC performance measures, the TNSP is penalised for 24 hours of unavailability.

Consider the case of 10 towers on the Alligator Creek to Mackay circuit collapsing due to a microburst (tornado). The NSP re-configures system to return to meet power system security requirements. No load is disconnected. The towers take 3 months to manufacture and replace and the total duration of outage is 2160 hours. As a non-critical outage, the penalty is reduced by a factor of 1.8. Hence TNSP is penalised for 1200 hours of unavailability.

Under the ACCC proposed performance measures, the TNSPs are incentivised to focus risk mitigation effort and emergency response effectively equally across all circuits.

As TNSPs do currently focus their effort on critical circuits, the ACCC proposed performance measures will actually incentivise TNSPs to shift of focus and resources away from critical circuits.

This will result in reduced reliability of critical circuits and hence an increase in market impacts from forced outages.

Appendix 5

Alternative approaches to FM events

The Outage Duration measure is applied to <u>all</u> outages.

This is proposed on the basis that:

- prompt restoration of transmission services is critical no matter what the cause,
- some of these events are normally expected to occur and TNSP's take action to mitigate against these events,
- extreme events have a low probability of occurrence and are unlikely on average to impact the incentive payment
- the quantum of the incentive is small and the penalty if applied for an extreme event is unlikely to have a significant financial impact on the TNSP,
- it provides clarity regarding the application of the performance incentive, ie no definitional issues.

The Outage Duration measure is applied only to the most likely outages.

As an alternative to including all outages, the measure could apply for the most likely type of transmission line failures, which are predefined. This is proposed on the basis that if a risk can reasonably be expected and can be mitigated by the TNSP then it should not be treated as an FM event.

For example the predefined list could include all outages that are caused by lightning strikes, equipment failure or explosion and bushfires and other events that can reasonably be expected and therefore should be included in the outage duration measure, outages that are caused by all other events would be considered to be FM events.

A commercially based electricity market specific FM clause be applied.

The wholesale market contract documentation (ISDA) contains an optional FM clause which can be used in contracts between wholesale participants.

In this proposal outages or plant failures fall into two categories,

- those that are certain in nature but uncertain in timing, and
- those that are both uncertain in nature and timing.

It is only the latter category which are classified as FM events

Also for events other than plant failures those events which the TNSP could reasonably be expected to have some control are not considered to be FM events.

A revised definition of FM[4]

"Force Majeure Event" means any of the following events:

1. a significant plant or equipment failure that is unusual in nature and could not have been reasonably expected but excluding any failure which is predictable in nature but uncertain in timing;

[4] The clauses proposed are based on those used to define FM events in the de-regulated wholesale market and are considered to be appropriate in applying a competitive market based approach to FM for TNSP performance measures.

2. an industrial dispute that affects the operations of the TNSP other than, protected action, as defined in the Workplace Relations Act, which only affects the operations of the TNSP; and

3. a declared or undeclared war or a revolution or any riot or civil commotion;

4. an act of God including, without limitation, fire, flood or other natural disaster;

5. an act of sabotage or vandalism;

6. the withdrawal of all or part of the transmission system as may be necessary in order to:

   i. comply with a lawful direction given in connection with an emergency which in any way endangers or threatens to endanger the safety or health of any person or which damages or destroys, or threatens to damage or destroy, any property or endangers, or threatens to endanger, the environment or an element of the environment; or

   ii. avoid serious and immediate risks of a significant plant or equipment failure that is unusual in nature excluding any failure which is predictable in nature but uncertain in timing; or

7. a failure of the owner or controller of another extra high voltage network transmission system used to transmit electricity in bulk to supply connection or network transmission services,

which alone, or which when taken together with any other such event or events, affect the ability of the TNSP to perform its obligations under the service standard where the event or events or reduction could not reasonably have been avoided by acting in accordance with such Good Electricity Industry Practice as existed immediately prior to the relevant event.

A definition of "Good Electricity Industry Practice"

"Good Electricity Industry Practice" means the exercise of that degree of skill, diligence, providence and foresight that could reasonably be expected in relation to the operation of Transmission assets, taking into account the size, duty, age, and technological status of the Transmission assets and any other relevant factor, from a significant proportion of operators of facilities located in Australia for the transmission and of electricity.