Final Decision

Electricity transmission network service providers service target performance incentive scheme

September 2015

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: (03) 9290 1444
Fax: (03) 9290 1457

Email: AERInquiry@aer.gov.au
AER Reference: 55426 - D15/139745

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Executive Summary

Under clause 6A.7.4 of the National Electricity Rules (Rules), we are responsible for establishing and administering a service target performance incentive scheme (STPIS) for electricity transmission network service providers (TNSPs). The scheme provides incentives for TNSPs to improve or maintain a high level of service for the benefit of participants in the National Electricity Market (NEM) and end users of electricity.

The STPIS is made up of three components: a service component which acts as a key indicator of network reliability; a market impact component to encourage TNSPs to minimise the impact of outages on the dispatch of generation; and a network capability component that encourages TNSPs to undertake priority projects of benefit to customers that they would not otherwise undertake.

This latest version of STPIS version 5 contains improvements over version 4 to ensure the scheme continues to provide value for money. We published a draft report in June 2015 which included our preliminary proposals. We received 11 submissions to our draft report which we have considered. This feedback was taken into account in developing this final decision.

One of the key areas where stakeholder feedback has shaped both the draft and final decisions is in the area of the market impact component (MIC). Additional analysis of methodology proposed in the draft lead to further adjustments to the MIC.

The main elements of this final decision in relation to the market impact component includes the following:

- The MIC now provides a reward/penalty of ±1 per cent of maximum allowed revenue (MAR), compared to 0 to two per cent reward-only in STPIS version 4 (i.e. the scheme is now symmetrical).
- The MIC is no longer based on rolling averages for the target and measure. The target is to be set for the five year period based on the average of five years of annual performance figures excluding the largest and smallest of the last seven. Consequently the $/DI is also fixed for the duration of the regulatory control period. This is a departure from the draft decision. Annual performance will be measured against the target.
- In the draft decision we proposed a single event count limit for the MIC of 17 per cent be introduced to moderate variations. In the final decision, in line with the principle of providing incentives to improve network outage planning, this 17 per cent unplanned event count limit will only apply to unplanned outages.
- Planned and unplanned third party outages are now excluded from the MIC.
- New exclusions have been introduced into the MIC component. These include exclusions for ramping constraints and for connection agreements where a lower service standard has been negotiated giving the TNSP the right to disrupt service (supply) under certain network conditions. These were practically excluded in previous versions, but are now

expressly excluded in STPIS version 5. In addition, a further exclusion (for inter-network system testing) proposed by AEMO has been introduced into the final decision.

With regard to the Network Capability Component (NCC) key elements of the final decision are:

- The incentive allowance for the network capability component (NCC) will be adjusted on a pro-rata basis linking the incentive to the total expenditure on approved priority projects.
- Amendments to the NCC clarify the information TNSPs must provide to AEMO that will be used in the development and assessment of priority projects.
- On priority projects:
    - We have improved our ability to accept or reject priority projects in the network capability improvement performance plan.
    - We have refined our ability to conduct ex-post assessment of priority projects, including a requirement that prior to commencing any priority project TNSPs must check that forecast benefits are consistent with the latest available information.

The main elements of this final decision in relation to the service component include the following:

- The "average circuit outage rate" in the SC is now called the "unplanned outage circuit event rate".
- The definition of the protection and control equipment has been clarified such that both categories have been captured under the proper operation of equipment parameter.
- The total reward/penalty has been increased from ± 1.0 per cent of MAR to ± 1.25 per cent of MAR.
    - Forced and fault outage sub-parameters will remain separate and a total weighting of 0.25 will be assigned to the forced outage sub-parameters.
    - For Murraylink and Directlink, their forced outage sub-parameters will be assigned a weighting of 0.5 and the weight of the "circuit event rate - fault" sub-parameter reduced from 1 per cent to 0.75 per cent.
- We accept Powerlink's proposed x system minute threshold of 0.05 and have set a y system minute threshold of 0.40.

1 Introduction

The AER is responsible for regulating the revenue of transmission network service providers (TNSP) in the National Electricity Market (NEM) in accordance with the Rules. Specifically, clause 6A.7.4 of the Rules requires the AER to establish the service target performance incentive scheme (STPIS). The STPIS is designed to provide incentives for each TNSP to provide reliable transmission network services.

1.1 Rules requirements

Clause 6A.7.4(a) requires us to develop a scheme that complies with the principles in clause 6A.7.4(b). The principles are that the STPIS should:

1) provide incentives for each TNSP to:
   i. provide greater reliability of the transmission system that is owned, controlled or operated by it at all times when transmission network users place greatest value on the reliability of the transmission system; and
   ii. improve and maintain the reliability of those elements of the transmission system that are most important to determining spot prices;
2) result in a potential adjustment to the revenue that the TNSP may earn, from the provision of prescribed transmission services, in each regulatory year in respect of which the STPIS applies;
3) ensure that the maximum revenue increment or decrement as a result of the operation of the STPIS will fall within a range that is between 1 and 5 per cent of the maximum allowed revenue for the relevant regulatory year;
4) take into account the regulatory obligations or requirements with which TNSPs must comply;
5) take into account any other incentives provided for in the Rules that TNSPs have to minimise capital or operating expenditure; and
6) take into account the age and ratings of the assets comprising the relevant transmission system.

Clause 6A.7.4(f) of the Rules allows us to amend or replace the STPIS from time to time. Any amendment to or replacement of the STPIS must be made in accordance with the transmission consultation procedures.

The transmission consultation procedures (clause 6A.20) outline the process to be followed by the AER in developing the final STPIS. We are required to publish a draft of the proposed STPIS, an accompanying explanatory statement and invite written submissions on the proposed scheme. We are required to publish the final STPIS and an accompanying final decision within 80 business days of publishing a proposed STPIS.

1.2 Review process and stakeholder submissions

Our framework and approach papers for AusNet Services and Powerlink foreshadowed that the STPIS would be reviewed prior to their upcoming regulatory resets.

Prior to releasing a draft decision, on 18 May 2015 we held a forum for stakeholders to discuss and develop key issues for inclusion in this review. This meeting was attended by 20 representatives from consumer, user groups, the market operator and TNSPs. To help inform our draft decision and explanatory statement we requested that stakeholders present at the meeting provide us with informal written comments and feedback.

On 16 June 2015 we released the draft version 5 of the STPIS with an accompanying explanatory statement for comment. The transmission consultation procedure allows stakeholders at least 30 business days to provide written submissions.[1]

Submissions on the draft closed on 28 July 2015 and we received submissions from:

- APA (Directlink/Murraylink)
- AusNet Services
- the Australian Energy Market Operator (AEMO)
- ElectraNet on behalf of Grid Australia
- GDF Suez
- Hydro Tasmania
- Major Energy Users
- Powerlink and
- the South Australian Council of Social Services (SACOSS).

In addition, we accepted two late submissions, from TasNetworks and Acil Allen for ElectraNet.

1.2.1 Additional stakeholder consultation

Some of the submissions raised intricate design issues regarding proposed changes to the MIC. In order to properly consider and assess these issues, we engaged in dialogue with relevant TNSPs and AEMO.

The key areas of engagement were:

- The impact of the MIC on the network planning arrangements in Victoria. We met with AusNet Services and AEMO several times to understand the impact of the MIC in this regard.

[1] Rules, cl. 6A.20(b)(3), (c).

- The modelling used to assist in the design of the MIC. During the development of the model we held several discussions with AusNet Services, Powerlink, ElectraNet, and ACIL Allen, the consultants engaged by Grid Australia.
    - As a result of additional analysis performed in response to the issues raised in this consultation we investigated other approaches to remove a mathematical bias, while maintaining the effectiveness, simplicity and transparency of the scheme.
    - We discussed the resulting proposed amendments to the MIC with AEMO, AusNet Services, ElectraNet (as Grid Australia), Powerlink and consumer representatives such as the Major Energy Users (MEU) and AEMO.

Discussions were also held with Powerlink over the SC. We worked though substantiating information supplied by Powerlink in support of its proposal to change its x and y system minute thresholds for its loss of supply sub-parameters of the SC. We appreciate the amount of work that Powerlink went through with us in this regard and we discussed our rationale on the outcome of our assessment and provided them a further opportunity to provide feedback prior to the finalisation.

1.3 Features of version 5

STPIS version 5 maintains the same three components as version 4.1 (i.e. the service component, the market impact component and the network capability component).

1.3.1 Service component

The SC provides a reward/penalty of +/- 1.25 per cent of MAR to improve network reliability, by focussing on unplanned outages. The SC is designed to encourage TNSPs to seek to reduce the number of unplanned network outages and to promptly restore the network in the event of unplanned outages that result in supply interruptions. This component, designed to indicate potential reliability issues, uses four parameters to measure performance.

- The **average circuit outage rate parameter** measures the average number of times unplanned outages render circuits unavailable. An increase in the frequency of unplanned outages may be a lead indicator of a future reliability problem. This parameter does not measure outage duration or account for whether the outage caused a loss of supply or market impact.
- The **loss of supply event frequency parameter** measures the number of unplanned outages resulting in a loss of supply. It measures the number of small events (small loads interrupted for short periods) and large events (large loads interrupted for even a short duration, or a customer with a moderate load interrupted for a long duration). The parameter is designed to encourage TNSPs to reduce the duration of moderate and small customer interruptions through fast response times and to reduce the frequency of large customer interruptions through improved reliability.
- The **average outage duration parameter** measures the average duration (in minutes) of unplanned outages causing a loss of supply. The time a TNSP takes to restore network equipment is used as a proxy for the effectiveness of the TNSP's operational response to unplanned events. The parameter focuses on loss of supply events to encourage TNSPs to focus on those unplanned outages which most adversely affect customers.

- The **proper operation of equipment parameter** counts the number of times protection or control systems fail as well as occurrences of incorrect operational isolation of equipment during maintenance. Incorrect operation of equipment can cause unplanned outages of primary transmission equipment and therefore acts as a lead indicator of reliability. There is no incentive payment currently associated with this parameter only for reporting as a trend indicator.

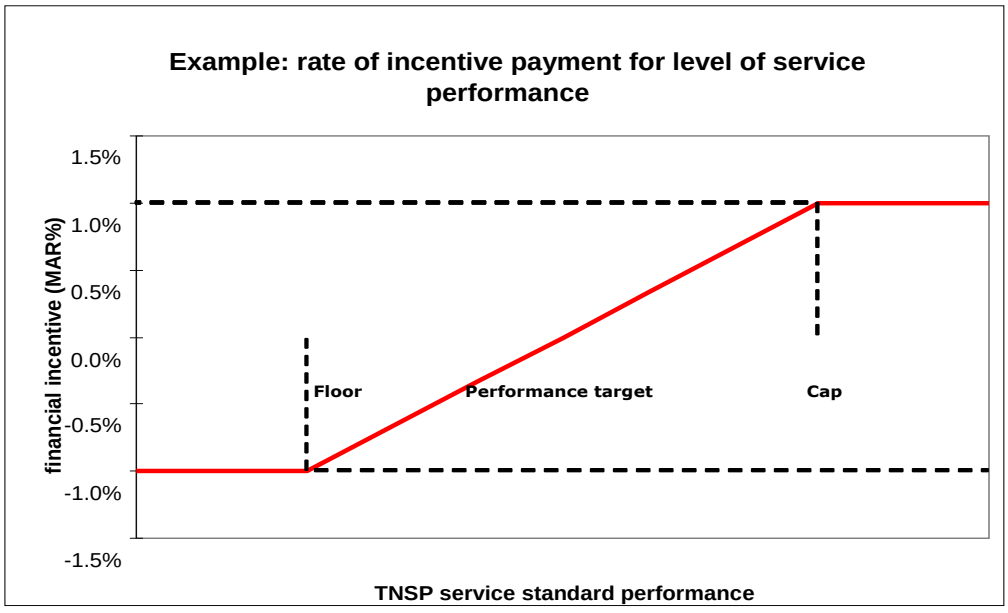
Each service component parameter is assigned a weighting. The weightings describe the way in which the financial incentive is distributed across parameters. The weighting of a parameter defines the total amount of revenue at risk that is placed on each parameter and sub-parameter in the service component of the scheme. The sum of each of the weightings (for each parameter and sub-parameter) will total the revenue at risk.

As part of a TNSP's transmission determination we establish a performance target, cap and collar for each of the parameters and sub-parameters:

- The performance target defines the level of performance at which a TNSP will not receive a penalty or a bonus.
- The cap defines the level of performance at which the TNSP will receive the total maximum bonus, such that it will not receive any further increase in its revenues for further improvements in performance.
- The floor defines the level of performance at which the TNSP will receive the total maximum penalty, such that it will not receive any further decrease in its revenues for further reductions in performance.

Put together with the weighting of parameter or sub-parameter, the performance target, floor and cap define the rate of incentive payment for any given level of annual performance (see Figure 1 below). The percentage increment or decrement that the MAR is adjusted by in each financial year is called the service standards factor (or s-factor).

Figure 1: Service component floor, performance target and cap



1.3.2 Market impact component

The MIC uses financial incentives to encourage TNSPs to minimise the effect of transmission outages on the wholesale price of electricity. The MIC counts the number of dispatch intervals when equipment outages in the TNSP's network result in binding network outage constraints with a marginal value greater than $10/MWh ("MIC count").

Each TNSP's annual MIC count is measured against its target, where the target is calculated by averaging the median five of the last seven years' performance.[2] Further, the dollars per dispatch interval ($/DI) associated with the reward/penalty for each count can be directly calculated for the regulatory control period from the MIC target, and the MAR. Both the target and the $/DI are fixed for the regulatory control period.

1.3.3 Network capability component

The NCC (introduced in STPIS version 4), is designed to encourage TNSPs to develop projects (up to a total of one per cent of the proposed MAR per year) in return for a pro-rata incentive payment of up to 1.5 per cent of MAR depending on the successful completion of proposed projects. This component encourages TNSPs to examine their networks to identify suitable low cost one-off operational and capital expenditure projects that improve the capability of the transmission network at times when it is most needed.

TNSPs are required to submit, a network capability incentive parameter action plan (NCIPAP) as part of their revenue proposals. TNSPs must consult AEMO in developing their NCIPAPs.

The TNSP's NCIPAP must outline the key network capability limitations on each transmission circuit or load injection point on the its network. TNSPs should also include a list of priority projects, designed to improve network limitations and the value of the improvement target for each proposed priority project. TNSPs are required to rank the priority projects in descending order based of the likely benefit of the projects on customers or wholesale market outcomes. AEMO's role includes prioritising and ranking the projects in order of best value for money for consumers. Total annual average expenditure on these priority projects cannot exceed one per cent of the TNSP's proposed MAR and cannot be funded elsewhere through operating or capital expenditure from their revenue proposal.

We assess the efficacy of each priority project against its improvement target. When determining whether a priority project improvement target would result in a material benefit, we take into account the factors outlined in the scheme, including the likely benefits to the wholesale market or to customers. A material benefit in this sense account for the effect achievement of the priority project improvement target would have on spot price outcomes or improved capability of the transmission system.

TNSPs must report on steps taken to reach the priority project improvement target as part of the annual STPIS compliance review, including any measurable improvements in network capability as a result of implementing a priority project. As part of the annual review, in the

[2] The target will be calculated from the average of the five values remaining from the last seven years of data excluding the largest and smallest annual values.

year prior to commencing a priority project, the TNSP will need to report to us that it has verified that the projected benefits arising from the priority project are still consistent with its initial assessment and that it still warrants investment.

During the regulatory control period TNSPs receive pro-rata annual incentive payments up to 1.5 per cent of the MAR to fund priority projects outlined in the NCIPAP. As part of the annual compliance review immediately following the end of the regulatory period, we will assess whether the TNSP has achieved the priority project improvement targets for all priority projects. In cases where TNSPs do not achieve the targets for the regulatory control period or if their priority project costs are in excess of the expenditure outlined in the NCIPAP, we may reduce the incentive payment for that priority project. Projects ranked in the top half of approved priority projects are subject to higher reduction rates than projects ranked in the bottom half. The design of the annual financial incentive and penalties for the NCC was developed as part of the STPIS version 4 review and is discussed in detail in section 4.3.4 of the explanatory statement accompanying the draft STPIS version 4.[3]

1.4 Annual compliance review

TNSPs are required to report their compliance with the scheme in accordance with the TNSP Information Guidelines or an Economic Benchmarking Regulatory Information Notice (RIN), if applicable. We provide each TNSP with a customised service performance reporting template by 15 December each year to be completed by 1 February the following year. We assess the TNSP's performance against the STPIS parameters for the preceding calendar year and verify the financial reward or penalty to be recovered by the TNSP. This information is published annually on our website.

3 Available at http://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/service-target-performance-incentive-scheme-version-4-december-2012-amendment.

2 Service component

This chapter sets out our final decision on the SC parameters.

2.1 Draft decision

When the average circuit outage rate parameter was amended in STPIS version 4, the sub-parameters were divided into forced and fault outages. Forced outages were given a weighting of zero because TNSPs did not have sufficient data available for us to establish weightings. However, since the introduction of RINs we have been able to collect the appropriate data to allow us to attribute weightings.

In the draft decision we proposed to keep the fault and forced outage sub-parameters separate and assign a non-zero weighting to the forced outage sub-parameters. AusNet Services commented that fault outages had a higher impact on customers than forced outages, so to reflect the lesser impact of forced outages we assigned a total weighting of 0.25 per cent to the forced outage sub-parameter. This increased the total revenue at risk for the SC to ±1.25 per cent of MAR.

Murraylink and Directlink are effectively only interconnectors and as such they have materially different asset bases to other TNSPs. In recognition of this only two of the four average circuit outage rate sub-parameters apply to them. To match the total revenue at risk for these participants to ±1.25 per cent of MAR, we proposed different weightings. A weighting of 0.5 per cent was attributed to the "circuit event rate - forced" sub-parameter, and we reduced the weight of the "circuit event rate - fault" sub-parameter from 1 per cent to 0.75 per cent.

The draft decision proposed some other minor amendments to the SC:

- Renaming the "average outage circuit rate" parameter to the "unplanned outage circuit event" rate to better reflect that the parameter effectively measures the event rate of unplanned outages (per 100 circuits).

2.2 Issues raised in submissions and AER final decision

This section discusses the issues raised in submissions and sets out our final decision.

2.2.1 Proposal to weight forced unplanned circuit event rate

AusNet Services supported our draft decision to keep the fault and forced outage sub-parameters separate and to assign a weight of 0.25 per cent to the forced outage sub-parameters.

Grid Australia agreed in principle but thought that the rationale for expanding the reward/penalty rate was unclear.

While Powerlink also supported the proposal on the basis that it will encourage TNSPs to improve notification timeframes, it considered that forced outages provide only a small opportunity to reprioritise resources and/or works to minimise the potential customer impact.

For that reason, Powerlink proposed that the weighting for both fault and forced outage sub-parameters be applied equally for a total parameter weighting of 0.75 per cent. Powerlink's proposed is set out in Table 1.

Table 1: Powerlink proposed weighting for forced and fault outages

Weighting (per cent)	V4	Draft V5	Powerlink proposal
Fault Outages			
Lines	0.2	0.2	0.15
Transformers	0.2	0.2	0.15
Reactive plant	0.1	0.1	0.075
Forced Outages			
Lines	0	0.1	0.15
Transformers	0	0.1	0.15
Reactive plant	0	0.05	0.075
TOTAL	0.5	0.75	0.75

AER considerations and decision

We have decided to uphold the changes to the forced and fault outage sub-parameters proposed in the draft decision. Forced and fault outage sub-parameters will remain separate and a total weighting of 0.25 will be assigned to the forced outage sub-parameters. For Murraylink and Directlink, their forced outage sub-parameters will be assigned a weighting of 0.5.

The overall financial incentive was increased to ±1.25 per cent, maintaining the weightings on existing parameters and providing an additional incentive on the new parameters. This does not therefore reduce the financial imperative of the existing service component sub-parameters and introducing a weighting on the additional forced outage sub-parameters must increase the overall value at risk in SC. Not increasing overall financial incentive would have meant that the weightings for all the sub-parameters would have been re-distributed. A reduction in the values of the sub-parameters may have reduced their efficacy as incentives.

We assigned a higher weighting to the fault outage sub-parameters because we considered they were likely to impact on customers more than forced outages. By definition, customers have no warning that a fault outage is about to occur. However, customers do have some notice (less than 24 hours) for forced outages. This provides them with a small window in which to take some mitigating steps, which may reduce the impact. Given the focus of the SC is to act as lead indicator of system reliability, we agree with AusNet Services that fault outages have a greater impact on network users and we consider it is consistent with the STPIS principles in clause 6A.7.4(b) to reflect this in the higher weighting of the sub-parameter.

2.2.2 Definitional issues

Grid Australia and Powerlink supported the name change from "average circuit outage rate" parameter to "unplanned circuit event rate outage rate" parameter. No submissions commented on our proposal to remove the percentage symbol in the unplanned outage circuit event rate parameter definition.

AER considerations

Given the support from stakeholders and for the reasons set out in the explanatory statement accompanying the draft decision, we have decided to uphold these changes.

2.2.3 Loss of supply event parameter weighting

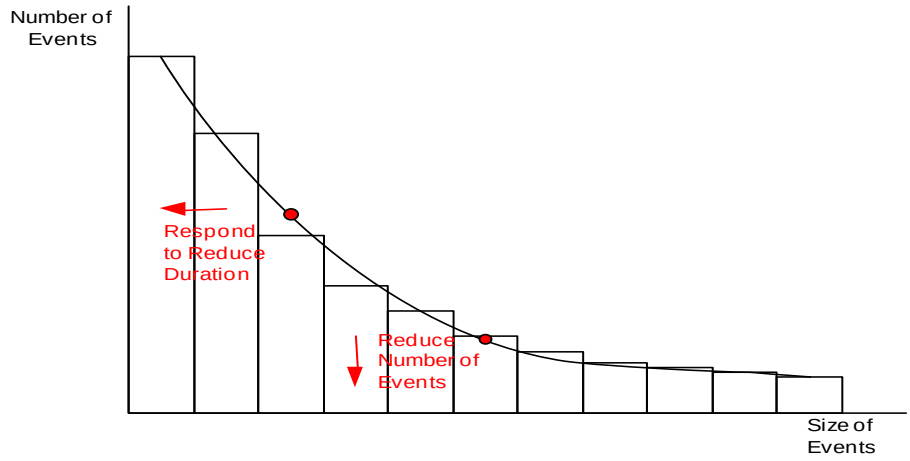
Background on the purpose of loss of supply sub-parameters

The loss of supply event measures the number of loss of supply events that breach a particular 'system minute' threshold. 'System minutes' measure the size of an unplanned outage in megawatt hours (MWh) normalised against the peak demand the network supplies. This parameter is disaggregated into a moderate (x) system minute loss of supply sub-parameter and a large (y) system minute loss of supply sub-parameter.

The size of a loss of supply event is influenced by the magnitude of the customer load interrupted and the duration of an outage. As illustrated in Figure 2 there tends to be a small number of very large events (which could be because a large load customer is interrupted for a short period or a moderate load customer is interrupted for a long period) and a large number of small events (where smaller loads are interrupted for shorter periods), noting that this does not include transient interruptions less than one minute in duration

The x and y sub-parameters are designed in order to drive reductions in the duration of moderate and small customer interruptions (through fast respond times) and to drive reductions in the number of small customer interruptions through improved reliability. The parameter does so by setting an 'x' system minute threshold to incentivise the reduction in duration of events and a 'y' system minute threshold to incentivise a reduction in the frequency of high loss events.

Figure 2: Distribution of energy not supplied events



Source: Grid Australia

If the x or y system minute threshold is set inappropriately, TNSPs may be unable to change their behaviour to meet targets. Further, if the thresholds are set too close to one another, one of the incentives is lost.

AusNet Services considered that the recent change in the Value of Customer Reliability (VCR) warrants a reduction in the weight assigned to the loss of supply outage event frequency parameter. According to AusNet Services the VCR is a key input in its asset replacement and augmentation framework. A reduction in the VCR will defer capital expenditure and lead to a fall in reliability. AusNet Services expects this reduction in reliability to be gradual at a whole of network level which will not be reflected in fixed targets but should be accommodated in the scheme. For these reasons it proposed that the parameter weighting be reduced from 0.3 per cent to 0.15 per cent.

AusNet Services considered that the alternative remedy –adjusting targets– was impracticable, because of the challenges involved in accurately forecasting the effect on reliability and the size of the targets. They also noted that TNSPs will have a strong incentive to reduce the frequency of loss of supply events because of the adverse reputational effect of such outages. So a change in weighting would not result in a change in effort by AusNet Services to avoid loss of supply events.

AER considerations

Rather than changing the parameter weighting, we have chosen to adjust the performance targets. This adjustment may either be made through clause 3.2(i) or (j). However, before such an adjustment in targets can be made, it is important that any link between the reduction in VCR and loss of reliability be demonstrated. A reduction in VCR does not necessarily mean there will be a reduction in reliability in the forthcoming regulatory period: it may take some time to manifest and could be affected by other factors such as changes to network demand.

Furthermore, a reduction in the weighting would primarily signal that TNSPs should place less emphasis on reducing the number of loss of supply event outages, relative to other parameters. This is inconsistent with the core objective of the STPIS to encourage TNSPs to achieve efficient reliability outcomes expressed through the principles in clause 6A.7.4(b).

Even if the VCR results in a change in what is considered an efficient reliability outcome, it is important to incentivise TNSPs to achieve that efficient level of reliability. Thus, we do not consider it is appropriate to reduce the weighting of the loss of supply event parameter for AusNet Services.

2.2.4 Powerlink's loss of supply thresholds (x and y system minute thresholds)

Powerlink proposed to amend its x and y system minute thresholds for the loss of supply event parameter to reflect its efforts to minimise the impact of outages in recent years. Table 2 below sets out Powerlink's proposed x and y system minute thresholds.

Table 2 : Powerlink proposed system minute thresholds

Threshold	Current	Proposed
X system minute	0.1	0.05
Y system minute	0.75	0.65

Powerlink considered that the proposed system minute thresholds are consistent with the principles of the scheme and it would be appropriate to apply incrementally lower thresholds in the next regulatory control period.

Powerlink gave examples of efforts it had made to reduce the customer impact such as the use of auto reclose schemes and improvements in its incident event management processes. This improved its performance against its current system minute thresholds.

In addition to the information provided in its submission, we also requested additional information from Powerlink regarding its proposal to amend its x and y system minute thresholds. Based on our consideration of Powerlink's responses we reached a preliminary view to accept its proposed x system minute threshold but reject the proposed y system minute threshold of 0.65 in favour of a y threshold of 0.40. We then provided Powerlink with an opportunity to respond to our preliminary view. A summary of Powerlink's responses is provided below.

First information request

As requested, Powerlink provided a copy of its 2011-2014 loss of supply event outage data and further information in support of its proposed change to the x and y system minute thresholds.

We asked Powerlink why it considered that the proposed x and y system minute thresholds were consistent with the STPIS objectives and principles and should be preferred over the

existing thresholds. Powerlink's response was that our proposed thresholds represented a progressive strengthening of the requirement from one regulatory control period to the next in a manner which provides statistically valid targets.

Noting one of the key principles of the STPIS set out in the Rules was to incentivise TNSPs to maintain or provide greater reliability, Powerlink stated that consistent with its own business drivers and the AER's STPIS objectives, stronger performance targets would encourage them to drive initiatives to provide greater reliability of its transmission network.

Powerlink stated that since the commencement of the STPIS, it has improved the reliability of its transmission network from one regulatory control period to the next, including improvements in its management of loss of supply events. Powerlink's proposal to lower the system minute thresholds is in the context of these improvements it has made to date.

We also queried why Powerlink now considers a x system minute of 0.05 appropriate in contrast to their response to the draft STPIS version 3 where it considered that 0.05 system minutes was an inappropriate target as 0.06 system minutes was the absolute minimum level for controlled outages. Powerlink responded that its previous position for the draft STPIS version 3 was based on the controllable action following the 15 minutes of manual reclose duration. Since then, Powerlink stated it had implemented several initiatives to enable safe, responsible and improved restoration responses to outage times. This enables it to access better outage diagnostics to identify the cause of the outage evens more quickly and where appropriate, to apply controllable action within the 15 minute timeframe.

Powerlink also added that it considered the proposed x and y system minute thresholds accounted for its network characteristics, load characteristics and operating requirements. They represented a meaningful incentive for the business in the context of a geographically-spread Queensland electricity transmission network.

Second information request

The second information request sought further information from Powerlink to support its proposed x and y system minute thresholds.

Powerlink considered that the y system minute threshold was a measure of infrequent but major load loss events and these are the type of events typically captured by their y threshold. It noted that the characteristics of their network are such that there are a higher number of large load centres connected by non-mesh transmission lines. This would result in an increased likelihood of outages of higher magnitudes of unsupplied energy compared to other states.

Powerlink stated that a y threshold of 0.65 system minutes would be an incremental step change in the value that is supported by historical performance and is a stretch target for infrequent but major loss of load loss events. It considered that a threshold lower than this will not be a meaningful or appropriate measure of the infrequent but major loss of load events due to the typically large value of MW lost for these types of events. A y threshold of less than 0.65 would be reflective of more frequent, loss of single bulk supply point type events measured by the x system minute threshold. This would lead to an overlap between

events otherwise captured between the x and y thresholds. Currently the occurrence of a loss of supply event that exceed both x and y thresholds for the same event is uncommon.

Powerlink stated that its y threshold was determined using its recent performance in the first half of 2015 in addition to its 2011-2014 performance. Based on this period, Powerlink would have an average annual performance of 0.6. When rounded to the nearest integer this gives a target of 1 and is consistent with AER approved targets in recent determinations for TransGrid and AusNet Services.

Additionally, Powerlink noted that the AER has maintained different x and y system minute thresholds across TNSPs to reflect different network characteristics and this is consistent with clause 6A.7.4(c) of the STPIS. It added that the AER has understood and generally accepted the radial nature and sparse geographic region supported by Powerlink's long and skinny network in previous decisions and the uniqueness of Powerlink's network has not changed.

For the x system minute threshold, Powerlink noted that the purpose of the sub-parameter was to minimise the total number of controllable loss of supply events. Thus it is appropriate that the loss of supply events be set at a level which can be controlled. In relation to its network, an example of this type of event is restoration of an average size bulk supply point within 15 minutes of an event. Powerlink has identified improvements to its processes to enable restoration within 15 minutes in certain circumstances.

Powerlink stated that its analysis of its recent historical performance of moderate loss of supply events show a trend in improvement over time to the point where the adoption of a more standardised x loss of supply threshold is considered appropriate. Powerlink also considered there was merit in a greater standardisation of x system minute thresholds across TNSPs - particularly where they are intended to capture similar types of events.

Response to AER preliminary views

Powerlink agreed with our preliminary view on the x system minute threshold.

In relation to the y system minute threshold, Powerlink was concerned that our preliminary view to reject their proposed y system minute threshold of 0.65 and instead lower the threshold to 0.4 system minutes was based on a misunderstood or incorrect interpretation of its previous responses.

In particular, Powerlink was concerned that we had based our decision on the 15-minute restoration time referenced in their response to the second information request. Powerlink noted that this reference was made in relation to the x threshold and was not intended to apply to events with restoration times above 15 minutes, which should instead be included in the y threshold category. This would incorrectly categorise the nature of events Powerlink would be incentivised to avoid through the adoption of its proposed y threshold.

Further, Powerlink added that the preliminary view did not account for the important contextual network topology and load composition basis of their transmission network.

AER considerations

We have decided to accept Powerlink's proposed x system minute threshold of 0.05 and reject their proposed y system minute threshold of 0.65. Instead, we consider that Powerlink's y system minute threshold should be amended to 0.40. Our reasons for the decisions are set out below.

STPIS Version 3 decision on Powerlink x and y system minute thresholds parameters

Powerlink's current loss of supply event x and y system minute thresholds of 0.10 and 0.75 respectively were introduced in STPIS version 3.

In that decision, we noted that the purpose of the x system minute threshold was to minimise the total number of controllable loss of supply events and adopted an x system minute of 0.10 because:

- Powerlink stated that the absolute minimum level of controlled outages was 0.06 system minutes, based on its operating requirements for manual reclose of 15 minutes and average load loss of 34 MW per loss of supply event. We considered that the minimum level of performance would only be achievable if a loss of supply event occurred and no further issues were required to be rectified before manual reclose could be initiated.
- Due to the radial nature and sparse geographic region supported by Powerlink's network, it is appropriate to set the threshold higher than the absolute minimum of 0.06 system minutes as calculated by Powerlink. The threshold should be set at such a level above the minimum controllable loss of supply threshold to allow Powerlink to rectify a loss of supply event that is reasonably greater in duration and/or magnitude than an average event.
- We analysed Powerlink's 2006 to 2009 historical loss of supply event data to assess the different ranges of x system minute thresholds within the same average number of events. Between the 0.08 and 0.12 system minute thresholds, Powerlink had an average of four events per year. It was considered a system minute thresholds within this range would provide a greater incentive than a system minute threshold within the 0.13-0.18 system minute thresholds, as those only had an average of three events per year.
- We considered that the most appropriate threshold to encourage improvements in performance would be the mid-point of the 0.08 and 0.12 system minute range: 0.10 system minutes.

For the y system minute threshold, we noted in the final decision accompanying STPIS version 3 that the aim of the sub-parameter was to minimise the number of large (y) threshold events and the magnitude of each controllable large (y) loss of supply event. While the y system minute threshold had generally been set to reduce the number of large loss of supply events which occur, we accepted that the y system minute threshold could also be set for Powerlink to minimise the magnitude of large events. Powerlink also provided additional information that due to nature of its radial network there is a greater likelihood of a large system minute outage occurring on Powerlink's network and that expected future load increases would increase demand and the potential size of outages on its radial network. On this basis, we accepted Powerlink's proposed y system minute threshold of 0.75.

Y system minute threshold

We consider that the primary purpose of the y system minute sub-parameter is to incentivise TNSPs to reduce the frequency of large loss of supply events on its network and to respond to a medium size event to avoid the duration extending to the point of exceeding the y system minute threshold. The threshold should also ensure that the TNSP will be provided with a meaningful performance target in the next regulatory control period. We agree with Powerlink that, where appropriate, the threshold should take into account the unique characteristics of the transmission network.

To assess whether a proposed y system minute threshold is appropriate, we reviewed the 2011-2014 loss of supply data provided by Powerlink. Table 3 below summarises Powerlink's annual performance against various potential y system minute thresholds over the period (not including supply events which are excluded under the STPIS)

Looking at Table 3, we can see that there are a range of potential y system minute thresholds between 0.65 and 0.30 which would provide Powerlink with a target equal to or greater than 1. This range does not change if the loss of supply event in the first half of 2015 is included. Thus, there are a range of system minute thresholds other than 0.65 which could provide Powerlink with a meaningful incentive.

Table 3: Powerlink historical performance against system minute thresholds

Performance against potential y system minute thresholds	2011	2012	2013	2014	Average
> 0.75	0	0	0	0	0
> 0.70	0	0	0	0	0
> 0.65	0	0	0	2	0.5
> 0.60	0	0	0	2	0.5
> 0.55	0	0	0	2	0.5
> 0.50	1	0	0	2	0.75
> 0.45	1	0	0	2	0.75
> 0.40	2	0	0	2	1
> 0.35	2	0	0	2	1
> 0.30	3	0	0	2	1.25

To determine which of the system minute thresholds between 0.30 and 0.65 would provide a y system minute threshold which is most consistent with the purpose of sub-parameter to reduce the number of large loss of supply events, we looked in detail at the non-excluded events captured by the thresholds. Additionally, to assess whether a system minute threshold lower than 0.65 would result in an overlap with the proposed x system minute threshold, we also examined in the detail the non-excluded events with a system minute threshold greater than 0.05. The loss of supply events are summarised in Table 4, with events with a system minute threshold greater than 0.30 set out in bold.

Table 4: Non-excluded events with a system minute threshold >0.05

Total system minutes	Event date	Event description
0.68	**06/12/2014**	**Ergon loss of supply event lasting 245 minutes where 24 MW was shed**
0.65	**23/09/2014**	**Ergon loss of supply event lasting 582 minutes where 10 MW was shed**
0.54	**01/03/2011**	**Loss of supply event affecting one customer/location lasting for 686 minutes with 7 MW shed**
0.44	**01/12/2011**	**Ergon loss of supply event lasting 21 minutes where 188 MW was shed**
0.32	**13/07/2011**	**Loss of supply event affecting four customers/locations lasting between 14 to 23 minutes with between 9-82 MW shed for each customer/location**
0.30	14/07/2011	Loss of supply event affecting four customers/locations lasting between 8 to 22 minutes with between 11-84 MW shed for each customer/location
0.29	26/09/2012	Loss of supply event affecting three Ergon locations lasting between 61-66 minutes with between 4-26 MW of load shed
0.22	22/09/2014	Ergon loss of supply event lasting 190 minutes with 10 MW load shed
0.19	25/11/2011	Ergon loss of supply event lasting 100 minutes with 17 MW of load shed
0.13	17/11/2011	Ergon loss of supply event lasting 15 minutes with 73 MW of load shed
0.10	16/12/2013	Customer loss of supply event lasting 432 minutes with 2 MW load shed
0.09	22/03/2011	Ergon loss of supply event lasting 14 minutes with 59 MW shed
0.09	25/01/2012	Ergon loss of supply event lasting 18 minutes with 43 MW of load shed
0.09	26/09/2014	Ergon loss of supply event lasting 31 minutes with 26 MW load shed
0.06	08/10/2013	Ergon loss of supply event lasting 15 minutes with 34 MW load shed

Looking at Table 4, we do not agree with Powerlink that a system minute threshold of lower than 0.65 is inappropriate. The purpose of the y system minute sub-parameter is to incentivise the TNSP to reduce the number of large events on its network that can be

caused by either a large load interrupted for a short period or a moderate load interrupted for a long period (including by improving the response to reduce the restoration time for the loss of supply event). For example, the loss of supply event on 1 March 2011 with 0.54 system minutes was the result of small load which was interrupted for over 11 hours and is similar the event on the 23 November 2014 with 0.65 system minutes. The loss of supply event on the 1 December 2011 with 0.44 system minutes was caused by a large loss of supply with duration of 21 minutes. We consider that these are the type of events on Powerlink's network for which the y system minute sub-parameter provides appropriate incentives for a TNSP to reduce.

The loss of supply events with system minutes of around 0.30 do not appear to be appropriate for the y system minute sub-parameter. These events appear to be small loss of supply events or moderate loss of supply events which last only a short period of time.

From this an appropriate y system minute threshold would be in the range of 0.40 to 0.55 system minutes as it would provide Powerlink with a meaningful incentive in the next regulatory control period and capture the type of events the y system minute sub-parameter encourages TNSPs to reduce.

Based on the data provided, a target of 0.40 would provide Powerlink with a target of 1 without the need for rounding. This would prevent any potential distortion of the financial incentives that may be caused by rounding. Further, a threshold of 0.40 captures all the historical loss of supply events highlighted in the above paragraphs which we consider are appropriate for the y loss of supply sub-parameter to capture.

As outlined above, our decision has been based on a consideration of:

- The type of events the y system minute sub-parameter is designed to capture.
- What system minute threshold would provide Powerlink with a meaningful incentive in the next RCP and
- An examination of the loss of supply events on Powerlink's transmission networks between 2011 and 2014 and which of those events were appropriate to be captured by the y system minute threshold.

We consider that the examination of actual loss of supply events implicitly accounts for the characteristics of Powerlink's transmission network. The analysis has shown that some loss of supply events on its network lower than 0.65 system minutes should be captured by the y system minute threshold but loss of supply events lower than 0.30 system minutes should not be captured by the y system minute threshold.

Accordingly, our final decision is for Powerlink's y system minute threshold to be set at 0.40 system minutes.

X system minute threshold

As noted above, the purpose of the x system minute threshold is to encourage TNSPs to reduce the duration of moderate and small customer interruptions. Importantly, as Powerlink has noted, the threshold should not be set at level at which loss of supply events can be cannot be controlled.

Similar to our approach with assessing the y system minute threshold, we reviewed the 2011-2014 loss of supply data provided by Powerlink to identify the range of potential x system minute thresholds which could provide Powerlink with a meaningful target. Table 5 summarises Powerlink's annual performance against various potential x system minute thresholds over the period (not including supply events which are excluded under the STPIS).

Table 5 : Powerlink historical performance against system minute thresholds

Performance against potential x system minute thresholds	2011	2012	2013	2014	Average
> 0.10	6	1	0	3	2.5
> 0.09	6	2	1	4	3.25
> 0.08	7	2	1	4	3.5
> 0.07	7	2	1	5	3.75
> 0.06	7	2	1	5	3.75
> 0.05	7	2	2	5	4
> 0.04	7	4	2	6	4.75
> 0.03	7	6	3	7	5.75
> 0.02	8	6	4	7	6.25
> 0.01	10	6	4	9	7.25

Looking at Table 3, we consider that an x system minute threshold of 0.05 would provide Powerlink with a meaningful target and incentive to improve. This target is half of Powerlink's current x system threshold of 0.10 and is below what was previously considered the absolute minimum controllable system minute level for a loss of supply event. Powerlink now considers it has improved its management processes such that some loss of supply events under 0.05 system minutes may be controllable. This x system minute threshold is consistent with the x system threshold of ElectraNet, AusNet Services and TransGrid.

On this basis, we accept Powerlink's proposal to amend its x system minute threshold to 0.05 system minutes. However, we note that in future reviews of Powerlink's x system minute threshold, it will be necessary to provide information on the extent loss of supply events with a lower system minute of 0.05 are controllable to determine whether it is still an appropriate threshold.

2.2.5 Proper operation of equipment weighting

AusNet Services considered that as there is potential for incidents recorded under the parameter to impact supply, it is appropriate for the parameter to evolve to financially incentivise a reduction in these events. It proposed a weighting of 0.15 per cent of MAR, which would offset the proposed reduction to the loss of supply event parameter and leave the total incentive value of the SC unchanged at 1.25 per cent.

AusNet Services considered a higher weighting could be assigned to this parameter because it has reliable historic data on the number of events which have occurred for each of the three sub-parameters, which can be used to set a target linked to a financial incentive in the next regulatory control period. However it recognised that not all TNSPs have sufficient consistent and robust data to participate. Accordingly, it proposed that TNSPs could be given the option to adopt the financial incentive at the start of their next regulatory control period.

AusNet Services also sought to have the sentence 'the failure of one piece of protection or control equipment where there is a backup or duplicate protection or control equipment for the relevant element' in the inclusions section of the proper operation of equipment parameter definition in Appendix A of the scheme amended to remove references to control equipment as this is not included in the scope of this parameter.

AER considerations

We do not consider it is appropriate for a financial incentive to be introduced for the proper operation of equipment parameter. In the final decision which accompanied the release of STPIS version 4, we stated that the effectiveness of the parameter would be reviewed in future, including whether it was appropriate to introduce a financial incentive. Given the parameter has only applied to three TNSPs for a short period of time, we consider it prudent to maintain the parameter on reporting only basis.[4]

In contrast, the proper operation of equipment parameter monitors a TNSP's behaviour over the regulatory control period and we can only see how effective the parameter has been after an assessment of the TNSP performance results over several years. To date, no TNSP has applied the parameter for more than three years and so it is difficult to observe is efficacy.

We have decided not to remove the references to control equipment in the sentence in the inclusions section of the proper operation of equipment parameter definition in Appendix A of the scheme. Our intention was always that the failure of protection system sub parameter also capture failure of control equipment.[5]

When the proper operation of equipment parameter was introduced in version 4 of the STPIS, we noted that the sub parameters were reflective of existing TNSP obligations in clause 5.7.4(a1) of the Rules to maintain a compliance program monitoring the performance of its protection and control systems. Thus the intention of the proper operation of equipment is to capture both protection and control equipment. This is consistent with the purpose of the parameter to act as a lead indicator of network reliability by focusing on failures, of key secondary systems which underpin the effective operation of primary network assets. Given this rationale, there is no compelling reason why control equipment should be excluded from the parameter.

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4 To date AusNet Services commenced application the proper operation of equipment parameter in March 2014, while TransGrid and TasNetworks commenced application in July 2015.

5 AER, 4 September 2012, Explanatory statement - draft STPIS version 4, page 31-33. Available at http://www.aer.gov.au/node/9780.

However, this intention may not be clear given the definition of 'protection system failure events' does not include a reference to control equipment. We have amended the definition to include control equipment. Consistent with this, we have also amended one of the exclusions to reference control equipment. We do not consider this will result in an additional regulatory burdens, as TNSP would already be collecting this information as part of their obligations under clause 5.7.4(a1) and as this is a reporting only parameter, there is no change in the financial position of TNSP.

The sentence referred to by AusNet Services was included to ensure that a protection system failure event included the failure of any backup or duplicate equipment. This is consistent with the parameter acting as a lead indicator of network reliability, as the failure of secondary equipment (including one set of duplicate equipment) increases the potential of an interruption to customer supply. On review of the sentence, we realise that this intention may be unclear. We have amended the sentence to clarity its intention.

2.3 Minor service component amendments

As part of the final decision, we have also made some minor amendments to the service component provisions of the scheme. These amendments will not result in any changes to the application of the service component. Rather, the amendments remove words or clauses which do not add any additional value or clarity and are unnecessary. The amendments which have been made are:

- the removal of old clause 3.2(f) which stated that a TNSP's proposed cap and floor could result in asymmetric incentives. This has resulted in the a sub-clauses for 3.2 being re-ordered (i.e. clause 3.2(g) in STPIS version 4.1is now clause 3.2(f) and so on)
- the term 'reasonable' has been amended in clause 3.2(j), which allows us to make adjustments to a TNSP's proposed performance target to account for one of the listed factors.

3 Market impact component

3.1 Draft decision

In the draft decision we raised the question of whether the revenue at risk (up to 2 per cent of MAR) and the reward-only nature of the version 4.1 of the scheme was still appropriate.

The MIC was initially designed as a reward-only parameter to encourage TNSPs to improve performance and recognising that to do so TNSPs may need to incur operating expenditure above their allowances. Evidence suggests that TNSPs have responded favourably to the existing incentive by incorporating the costs associated with such improvements into their base expenditure to some degree. As a result, we think it is appropriate to adapt the incentive structure to reflect the fact that TNSPs have embedded this approach into their normal business operation.

Defining appropriate treatment of third party planned outages has been challenging. In Version 4.1 including planned third party outages produced some unintended consequences. Their inclusion was intended to encourage TNSPs to negotiate connection options that reduced the market impact of associated network outages on the shared network with third parties. However, some TNSPs shifted the risk of a reduction in their incentive payment to the third parties through commercial arrangements.

To address these concerns our draft decision on the MIC included the following features:

- ±1 per cent revenue at risk, for which a performance measure of zero delivers a one per cent reward and a performance measure double the performance target delivers a one per cent penalty
- the number of counts from an individual event to be capped at a maximum of 17 per cent of the performance target
- the capped results are used in the calculation of targets and performance measures
- a minimum performance target of 100 counts
- the planned third party outage exclusion (re-instated)
- specific exclusion clauses introduced for ramping constraints and connection agreements where a lower negotiated service standards give TNSPs the right to disrupt supply under certain network conditions.
- removed references to the Directlink fire introduced in version 4.1 as it will no longer be relevant in Directlink's next revenue determination. Proposed including a general statistical outlier adjustment clause to account for similar circumstances in future. Minor editorial amendments and updated references to contemporary versions of the Rules.

3.2 Final decision

In response to the feedback received in submissions, we have amended the design of the parameter set out in the draft decision, to ensure the following principles are achieved:

- To simplify the scheme wherever possible so that it is intuitive and understandable, to assist with the communication and project planning.
- That the mathematical representation of the scheme is not biased.
- To provide stability to the value of the incentive ($/DI) for the duration of the regulatory period.

Our final decision contains the following characteristics:

- In contrast to the draft, the target is set for the regulatory control period on the basis of the average of the median five years from the last seven years of actual performance. That is, the average is calculated on five values from the last seven years excluding the largest and smallest values. Based on the five year target and the one per cent of MAR, then the $/DI for the five year regulatory period is calculated by dividing the $ by the target. This results in a constant $/DI.
- As published in the draft, the absolute value of the reward/penalty can be no greater than one per cent of MAR.
- We have adopted the definition proposed by the TNSPs of outages events, except that capped events will only apply to unplanned outages. This works in concert with the service component, where failures are penalised.
- the target is based on the total number of counts after exclusions and event capping.
- a floor of 100 counts will apply to the performance target.

At all stages of the consultation process we have engaged in extensive formal and informal consultation with stakeholders on this parameter both before and after the release of the draft and the receipt of submissions.

We simplified the approach to the calculation of targets and performance to remove the mathematical bias inherent in the original percentage change approach. Once we refined the formulation of the MIC parameter for the final decision, we sought comments and feedback from Powerlink, AusNet Services, ElectraNet/Grid Australia/Acil Allen, MEU, AEMO and Hugh Grant. Resolving these issues and allowing time for additional consultation has delayed the completion of our final decision date from mid-August to mid-September.

3.3 Issues raised in submission

HydroTas, GDF Suez, MEU and SACOSS supported the AER's draft decision. As described by GDF Suez, under the reward-only design, TNSPs can choose to take a passive approach because there is an incentive to do more but no penalty for failing to act, the reward/penalty approach changes that. AEMO supported the reward/penalty scheme and noted that the design of the draft STPIS version 5 limits the perverse incentives that can arise from reward-only scheme (version 4 and prior). AEMO also observed that this reward-only design can lead to an incentive value $/DI that may not be reflective of actual costs.

While there was strong support for a reward/penalty design from energy users and the market operator, the network service providers: Powerlink, AusNet Services,

Murraylink/Directlink, TasNetworks, ElectraNet and Grid Australia did not support the principles of a reward/penalty design.

3.3.1 Draft decision model

A substantive issue raised by Grid Australia, AusNet Services, ElectraNet, Powerlink, APA and TasNetworks was that the model we presented in the draft decision had a negative mathematical bias which disadvantaged TNSPs over the long run. Furthermore they considered that it was easier to achieve the full negative outcome than receive the full reward.

AER considerations

The incentive model in the draft decision used a three year rolling average to calculate the target and two year rolling average to determine the performance measure. The incentive calculation determined the percentage change of the measure against the target. While this is a reasonable approach for a reward-only scheme it is not suitable in determining a reward/penalty. This is because it contains an inherent mathematical bias due to its dependence on the percentage change against a rolling average. To remove this bias we have simplified our approach such that the reward or penalty a TNSP will receive is based linearly on the difference between the target and their annual performance.

3.3.2 Incentive design

In general, the TNSPs did not agree that the MIC should be other than a reward-only model.

AusNet Services submitted that TNSPs should not be subject to a penalty for this component as performance can be affected by external influences outside its control. As an example it described two factors that can influence MIC performance: the impact of generator behaviour and future energy policy developments that may affect the generation mix and wholesale prices.

This argument was echoed in the TasNetworks submission. Specifically, TasNetworks noted that, in a submission to the Expert Panel review of the Tasmanian Electricity Supply Industry in 2012, the AER had expressed concerns regarding the dominance of Hydro Tasmania in the Tasmanian region of the National Electricity Market, and the influence Hydro Tasmania's bidding behaviour was having on spot prices. TasNetworks further noted that the AER also observed that Hydro Tasmania had the ability to drive counter price flows across Basslink, thus limiting the ability of competitors to manage their spot market risk. It set out that, given its circumstances and in a purely Tasmanian context, that removal of the potential for penalties was a risk mitigation exercise for TasNetworks that was endorsed by the AER. TasNetworks does not believe it has sufficient experience in working with the MIC to be comfortable with the removal of that risk mitigation. Retention of the current reward-only MIC is, therefore, its preferred position.

GDF Suez supported the reward/penalty design. It noted that this more closely approximates commercial drivers felt by businesses operating in a competitive environment as they assess the risk/return trade off of their decisions and actions. Similarly, HydroTas supported the

penalty/reward scheme. It observed that outage planning has achieved reasonably effective outcomes and that a reward/penalty design will further complement the focus already provided.

AER considerations

In considering the arguments raised by AusNet Services and TasNetworks it is important to draw a distinction between outages which are within the TNSPs' control and what happens during that outage. The MIC captures counts for constrained dispatch intervals caused by network outages with a marginal value greater than $10/MWh that are within TNSPs' control. External factors leading directly to an outage and not within TNSPs' control are excluded. For example, there is a force majeure exclusion provision and counts arising from an unplanned outage are capped. To the extent that dispatch interval counts are caused by network outages within the TNSP's control but are influenced by factors which result in the marginal value being greater than $10/MWh, it is appropriate the MIC include those. The purpose of the MIC is to encourage a TNSP to minimise the impact of planned outages on its network that affect the marginal dispatch of generation. This includes responding to factors outside its direct control but over which it will have some influence (i.e. some aspects of generator behaviour) during an outage for which it is responsible.

Step changes in generator behaviour that can affect the MIC count for a TNSP are somewhat linked to broader energy policy settings. This issue is complex as a change in market conditions could equally lead to an increase or decrease in congestion and MIC count. Indeed over the last five years we have seen the introduction and removal of the price on carbon emissions. By setting the targets on the basis of the median five years from the last seven we consider that an allowance for deviation in generator behaviour /policy change is built into the targets. Where exogenous factors lead to a material change in MIC count then we can, where appropriate evidence can be gathered, adjust the performance accordingly, if the objectives of the scheme are not being met.

The Tasmanian network is connected to the mainland through Basslink, a DC interconnector, and outages in Tasmania can impact the rest of the NEM, affecting in the marginal cost of dispatch. Thus, it is appropriate to include TasNetworks in the MIC scheme to provide appropriate planning and operational signals. While, Tasmania is somewhat unique with a single participant owning or controlling virtually all of the capacity in the region, we do not consider this sufficient to exclude TasNetworks from being penalised under the MIC as the purpose of the scheme is to encourage outage planning.

3.3.3 Size of the reward

APA questioned whether the reduction in reward (from two to one per cent) is necessary given the overall benefits of the scheme to consumers likely exceed the costs, and it requested that the AER calculate the value to electricity consumers of the MIC scheme. Powerlink observed that the change of one per cent is material. In contrast, HydroTas suggested that a reward/penalty scheme of one per cent revenue at risk did not go far enough. It proposed that the AER should expand the reward/penalty to two per cent, noting that this will not cost customers any more than they are currently paying. In later

discussions, AusNet Services suggested that a one per cent incentive may significantly change the imperative to pursue alternate approaches.

AER considerations

The MIC seeks to focus the attention of TNSPs onto planning their operation to minimise the impact of their work on wholesale market prices. While not a comprehensive assessment of the value of the MIC it is worth considering that the incentive scheme drives TNSPs to seek to reduce network congestion. The approximate spot market value of reducing the prices in a single dispatch interval from the market price cap to the annual average spot price for NSW alone is in the order of $10 million.[6] The cost of the scheme is low compared to the potential benefits it delivers to customers. That is not however a reason for maintaining a two percent reward in the scheme.

By repositioning the scheme as a plus/minus one per cent around a target we have maintained the spread of MAR risk from previous versions of the scheme, but that the introduction of the penalty changes the properties to the parameter: TNSPs now have a disincentive to performing worse.

Whilst the change to the magnitude of the available reward is material (from two to one per cent), the STPIS version 5 remains within the envelope of up to five per cent required by Rules clause 6A.7.4(b)(3).

We acknowledge that by moving to a plus/minus one percent scheme to maintain the overall value at risk we have halved the effective marginal value of an incremental change to the number of constrained dispatch intervals. Submissions regarding the impact of this reduction were polarised even amongst the TNSPs. This is a difficult balance. The new formulation changes the financial outcomes from the scheme and we consider that its power is largely retained.

3.3.4 The effect of the minimum performance target

Grid Australia described the target floor of 100 as arbitrary.

AER considerations

The target floor of 100 DIs was introduced to manage the $/DI value for TNSPs operating at low target levels to a reasonable upper limit. For example, the maximum MAR in the NEM is approaching $1 billion. Without the performance target floor, if the target was 10 counts then each DI would have a value of $1 million. This is an unlikely scenario in practice, but illustrates the requirements for a target floor. With a target of 100 counts, the maximum value is $100,000/DI. While this is still a high value, it is more reflective of the value customers may place on a DI while maintaining a substantial lever on TNSP behaviour. It should be noted that this floor only applies to the target. Actual performance can be less

6 It the market price rise to the market price cap for one DI this will result in a spot price of approximately $2000/MWh. If NSW demand was 10,000MW for that half hour it has a wholesale market price outcome which is in the order of $2000/MWh X 5000MWh = $10m

than this figure and would therefore receive a reward proportionate to its magnitude against the target. Our intention is that a TNSP achieving an outcome less than this figure should still receive a reward and that that reward will still be reflective of the value to the customers of improved planning resulting delivering less network congestion.

3.3.5 Basis for full reward or penalty

Not-withstanding that they do not support a reward/penalty scheme, AusNet Services and Grid Australia proposed an alternative statistical approach to setting number of MIC counts a TNSP should achieve to receive a full reward or penalty, the cap and target. They reasoned that this would provide consistency between design of MIC and service component.

AusNet Services submitted that using a statistical method where the full reward or penalty would be driven by a performance range based one standard deviation on either side of the target would provide a more symmetrical incentive than the method in the draft decision.

We have held a number of discussions with AusNet Services after its submission, and we understand that one of its key concern is that, under the AER's final decision method, a zero MIC count is effectively unachievable and therefore it is not possible to receive the full one per cent reward, but a large number of counts from a single planned event or a planned major maintenance / augmentation project could "blow out" to a one per cent penalty relatively easily. It also claims that having a statistically derived end point for maximum reward will increase the incentive value of each DI, which would retain the value per DI, reduced under the AER's proposal.

AER considerations

AusNet Services' concerns regarding the difficulty of achieving a zero performance count exist in the current version of the STPIS. To receive the full incentive in STPIS version 4, a TNSP would need to achieve a zero count for at least two consecutive years. While it is true that in STPIS version 5 the TNSP would need to achieve a count of zero, fixing the target and $/DI and measuring annual performance directly against the target improves the certainty of the reward and removes the potential mathematical bias that extending the version 4 calculation to a penalty/reward would have delivered.

While AusNet Services and the MEU provided some argument that a statistical approach may be appropriate its implementation would be potentially problematic. Without a more extensive data set on which to create reliable targets, and against which a performance incentive range can be established, outcomes could be unpredictable. Over the years that the scheme has been the MIC performance of some TNSPs has been relatively stable and therefore would have a small standard deviation. For others, the same has not been the case.

While the standard deviation remains small and less than the target, AusNet Services' intentions would appear to be satisfied. However, where the standard deviation exceeds the magnitude of the target the full incentive for a zero count would need to be applied while the number of counts for the full penalty would then be disproportionately higher. The inter year symmetry highlighted in the Grid Australia submission would then be compromised such that

an increase in the MIC count followed by equivalent improvements would not cancel out, indeed it would result in a reward. Effectively having a reward range different to the penalty range result in a positive bias to the scheme and result in different $/DI values for reward and penalty.

The practical application of a statistical approach to a TNSP operating at the performance target floor is also problematic and would compromise the intention of the floor, which is to control the $/DI to a reasonable level. If a standard deviation approach was adopted then the range could be narrower and as a consequence the $/DI elevated to unreasonable levels.

The TNSPs also considered that the MIC count that results in the maximum penalty was too easily achievable and therefore would be potentially frequently reached to the detriment of their businesses. Under Version 5, a TNSP would need to achieve a MIC count in a single year that was twice their target to achieve the full one per cent of MAR penalty. Based on current performance we calculated the likely targets for each network business we found that in all but one case their worst performance was less than twice the probable targets over the same period.

We have elected to retain the full reward at zero and full penalty at twice the target. The statistical distributions and volatility of performance differs quite markedly between TNSPs and, for each, over time. We cannot effectively manage a scheme where separate methodologies are applied for each TNSP. Our approach will facilitate performance comparisons across regions and provides a fixed $/DI for both reward and penalty, specific to each TNSP and reflective of the size of their target and MAR.

While consistency between parameters designs between the components of the STPIS is attractive, the service component and the MIC have different objectives and different metrics, and our primary focus in different parameters is providing the right incentives.

3.3.6 Capped outage event definition and application

Not-withstanding that the TNSPS do not support the reward/penalty design, the concept of capping outage events to mitigate volatility and risk was universally supported by the TNSPs. However, Grid Australia, ElectraNet and AusNet Services submitted that the AER's definition of a single outage event was unlikely to capture all DIs associated with a single major event, and proposed an alternate definition.

ElectraNet described its concern as the disconnection between the AEMO constraint and the substantive cause of the outage. It stated that, if a TNSP has a common driver for outages/works on a substation, line or groups of related lines then all outages associated with that cause should be subject to the one cap.

AER considerations

Within the broad objectives of the STPIS the purpose of the MIC was to encourage TNSPs to plan outages to minimise their impact on the NEM. In the draft decision we proposed a broad event count limit that would effectively cap the impact of any single event on the MIC count. The draft decision described a single event by reference to the set of outage constraints invoked by AEMO to manage an outage. Submissions from the TNSPs

suggested a revision to the definition that is more broad but still consistent with the intention of the cap that would combine all counts associated with the outage independent of the constraint sets invoked by AEMO.

In other sections of the STPIS we differentiate between forced fault and planned outages. On reflection we consider that given forced outages are not planned, limiting the number of counts for forced outages is appropriate. However, limiting the counts incurred for planned outages may provide the wrong incentives, particularly within the broader event definition we have accepted. That is, if the number of counts from planned events is limited, this may reduce the incentive to minimise the duration of the outage. Our final decision is that the application of the event limit will only apply to unplanned outages.

An unplanned, or forced outage, will usually be accompanied by an AEMO market notice which refers to the constraint set, or sets, invoked to manage the outage. We expect that the TNSPs will provide evidence from the market operator for the counts related to forced outages on the network as part of their annual compliance review.

TNSPs have discretion over when/where/how equipment is taken out of service, and can likely respond to market conditions within the scope of large scale projects. Effective outage planning would normally include back up plans to reduce risks. Not limiting counts that are incurred in this process maintains the incentive to plan and be flexible. We recognise that planning large scale projects is challenging and that the TNSPs try to reduce the number of MIC counts incurred in the outages needed for their completion. By limiting those MIC counts from unplanned outages but not those from planned outages, the power of the incentive on planning is increased.

17 per cent of the target was chosen as the annual MIC count limit for all forced outage on the basis of simulation.

ElectraNet suggested that applying the limit only to forced outages may result in a behaviour we have categorised as disengagement. That is once a TNSP has recognised that it is likely incur enough counts to receive a full penalty it may have an incentive to stop planning or to bringing forward future works.[7] That is, the incentive to continue to put "effort" into planning outages is diminished once the number of counts necessary to receive a full 1 per cent penalty has been reached as any additional counts cannot further increase the penalty. As the maximum penalty has been reached the TNSP may elect to bring forward work planned for future years to reduce future years MIC counts and increasing the probability and magnitude of future rewards.[8]

The event limit, methodology for calculating the target and incentive range are designed to encourage TNPSs to remain engaged. If a TNSP was to exceed twice its target for two years in seven years to increase its target for future regulatory control periods and may find it difficult to create sufficient reward to counter the penalties incurred. Similarly if a TNSP was to choose to plan their operation such that they alternately receive a full incentive followed

[7] A full penalty would be incurred if the annual mic count after exclusions and forced outage limit exceeded twice its target.

[8] The MIC target is calculated by averaging the median 5 years from the last 7 years annual performance. That is the average of 5 years annual results from the last 7 excluding the largest and smallest annual values.

by a full penalty over the full regulatory period its net benefit would be mathematically limited to a maximum of one per cent of MAR and practically probably lower.

3.3.7 Timing of the introduction of a penalty/reward

AusNet Services, Powerlink, TasNetworks and Grid Australia submitted that it is premature for the AER to implement STPIS version 5 because some TNSPs have not had the opportunity to respond to STPIS version 4 yet, and that it is too early to fully assess the effectiveness of version 4. TasNetworks considers that it would be premature to commit to any future introduction of an MIC penalty to TasNetworks, when the market impact parameter has only applied in Tasmania since the regulatory period that commenced on 1 July 2014.

AER considerations

STPIS version 5 is designed to deliver the best outcomes to meet the long term needs of energy consumers. The improvements made in STPIS version 5 more closely align the scheme with the objectives of the NEO at a time when TNSPs have shown that they can respond to the scheme. Under the Rules, it is not possible to have two versions of the scheme available operating concurrently. The release of each new scheme effectively replaces the previous scheme and each TNSP is subject to the version of the scheme that exists at the time its regulatory determination is finalised.

Targets are based on historical averages and the penalty/reward incentive design is about changing practices, relative to past performance. By the time version 5 applies to TasNetworks, we will have collected eight years of performance data under version 4 (reward-only). This is sufficient from which to introduce a penalty and is no less than data that has been collected for other TNSPs entering into version 5. Furthermore as discussed in section 3.3.2 other protections existing the scheme for exogenous factors that may affect their entry.

3.3.8 Interconnectors

APA submitted that interconnectors are exposed to greater risk in a reward/penalty scheme. They contend that while all outages are coordinated, they have little or no control of the timing or retiming of planned outages compared to the TNSPs to which they connect. They therefore claim that the MIC should either not apply to TNSPs that only have interconnector assets, or that no penalty should apply. The issues that APA has raised to support its claim that no penalty should apply to interconnectors are:

- All outages on interconnectors are necessarily coordinated outages. Where outages are coordinated, a single count is allocated equally between the two entities, so one eligible DI has a weighting of 50 per cent for each TNSP.
- The coordinating TNSPs value a constrained dispatch interval differently to an interconnector, because of their relative size and that the small proportion of coordinated outages.

- Where a coordinated outage is rescheduled by the other TNSP, the interconnector has the option to either: negotiate a new coordinated time and incur remobilisation costs; or to continue with the outage as an unplanned outage and therefore potential counts are fully attributable to the interconnector.

AER considerations

Directlink and Murraylink are included in the component because they are prescribed assets and can significantly affect market outcomes with their maintenance practices. Targets and rewards/penalties for the interconnectors are based on the same methodology as all other TNSPs. As the interconnectors are currently subject to the market impact component, remobilisation costs will be reflected in their respective allowances in a base-step-trend method in the next reset period when the new scheme applies. Furthermore the magnitude of their reward/penalty is smaller as a consequence of their lower MAR. How they respond to incentives depends their regulatory and commercial priorities but that their potential impact on the market is still material and that they should continue to negotiate with their surrounding TNSPs mindful of their mutual dependence.

3.3.9 Planned third party outages

AusNet Services and AEMO support the exclusion of third party planned outages, but both raised issues concerning the potential for transitional costs under risk sharing arrangements.

AusNet Services noted that the inclusion of these events introduces significant volatility to the scheme and adds unnecessary complexity to contract negotiations with third parties. AEMO noted that currently, the contractual arrangements adopted by some TNSPs could have the effect of removing the incentives on the TNSP to control planned outages on their own network by contractually obliging other involved parties to make the TNSP whole for lost incentive payments.

AEMO's concern primarily relates to the windfall gains and losses that could arise when the third party outage exemption is reinstated. It submitted that the regulatory framework should appropriately recognise the customer benefits associated with the risk sharing arrangements in Victoria. Both AEMO and AusNet Services have asked us to clarify our position on the treatment of outages required by projects initiated by third parties in Victoria. AusNet Services notes that under STPIS version 2, the AER audit has included outages that due to third parties connecting to the network. On this point, AEMO does not support the AER's past interpretation that the third party exclusion clause did not apply to AEMO initiated outages (in STPIS version two).

AEMO contends that in the transitional process, where a TNSP has borne the up-front cost of forgone incentive revenue themselves, rather than shifting the full costs onto third parties, then they should be permitted to retain the higher performance target associated with those outages. It further states that, in those circumstances, outage costs are likely to be reduced if the TNSP bears the risk associated with their future outage performance instead of passing the cost onto parties who are unable to manage the risk.

AER considerations

Under STPIS version 5, planned and unplanned third party outages are excluded from the measure where the TNSP does not have operational control of the non-prescribed asset. The introduction of static targets mitigates the transitional issues of TNSPs moving from version 2/3 to version 4 to version 5.

For clarity:

- For all jurisdictions where the TNSP has a dual role of transmission planner and transmission operator counts associated with augmentations/replacements of the prescribed network are **included** in the parameter, both pre-commissioning counts and post-commissioning counts.
- Where a new non-prescribed asset is connecting to the prescribed transmission network then the associated outages on the prescribed network will be **excluded** from the parameter. For example, a new wind-farm requests connection to the prescribed transmission network.

Once the new non-prescribed asset has been commissioned:

- Where the TNSP is both the owner and operator of the prescribed network assets and the non-prescribed assets, the counts on the prescribed network for post-commissioning planned/unplanned maintenance will be **included**. This provides the TNSP an incentive to minimise the impact of maintaining the network that is within its control.

In Victoria contestable arrangements exist for network augmentations where the "construction, ownership and operation" of new transmission assets is competitively tendered. Therefore, in Victoria:

- any connection arrangements that result in MIC counts on the existing prescribed network will be **excluded** from the parameter. This is irrespective of whether AusNet Services, or any other TNSP subject to the STPIS, is the successful tenderer for the new assets.
- As in other jurisdictions, once the assets are in service, if AusNet Services is the operator of the non-prescribed assets, then the counts on the prescribed network due to planned or unplanned outages will be **included** in the scheme. This provides AusNet Services an incentive to minimise the impact of maintaining the network within its control.

The first point recognises the fact that the Victorian framework has been designed to create incentives for efficiency by giving an independent planner responsibility for developing the network in a fashion that promotes the NEO. We agree with AEMO that projects initiated by AEMO are funded outside the revenue determination, and should not be included in the scheme. We also agree that, where a TNSP has borne the up-front cost of forgone incentive revenue, rather than shifting the full costs onto third parties, it should be permitted to retain the higher performance target associated with those outages.

The second point recognises that there is a difference in the 'control' depending on whether the TNSP is the owner and operator of the assets, after they have been commissioned and are in operation.

3.3.10 Internetwork power system tests

AEMO proposed a new exclusion for internetwork power system tests. We have added exclusion code 12 for NCIPAP projects under Rules 5.7.7. noting that the MIC could have unintended consequence of causing TNSPs to postpone or avoid desirable testing and or commissioning activities of a NCIPAP project due to risk that the activity triggers a MIC count.

3.3.11 Other MIC issues

AusNet Services and AEMO requested clarification on how the AER interprets the phrase. We have removed the reference to statistical outliers in clause 4.2(e) in the final decision. AusNet Services and Powerlink alerted us to some drafting issues which have been accepted and corrected.

4 Network capability component

This chapter sets out the amendments to the network capability component (NCC), including our reasons for the amendments.

4.1 Draft decision

In the explanatory statement accompanying the draft decision, we noted that the NCC, as introduced in STPIS version 4, was only intended to apply for one regulatory cycle and that it was necessary to review whether the component should be continued thereafter. We concluded that, as the NCC meets the principles and objectives of the scheme, it should continue but that enhancements could improve value for customers.

To that effect, the draft decision proposed the following amendments:

- Pro-rate the incentive allowance to 1.5 times the total cost of priority projects (capped at 1.5 per cent of the TNSP's MAR).
- Specific new requirements for us to consider the payback period of a priority project and whether, in the absence of the parameter, an efficient TNSP would likely undertake a priority project when assessing whether a priority project results in a material benefit.
- Strengthen our ability to reduce the incentive payment in the final year of the regulatory control period where there is a material change in circumstances which would result in a priority project no longer having the projected material benefits.
- Provide greater flexibility for TNSPs to propose additional priority projects during the regulatory control period.

The draft decision also amended AEMO role with respect to the preparation of the NCIPAP by the TNSPs. Changes to the scheme ensure that AEMO has sufficient information to perform its review of the proposed projects and to propose additional and alternative projects and clarified:

- That AEMO will review the TNSP's assessment of its network and aid in the identification of priority projects for the NCIPAP.
- The information which TNSPs provide to AEMO during the preparation of the NCIPAP.

These changes addressed the concerns raised by stakeholders and are consistent with the principles in clause 6A.7.4(b) of the Rules and the NEO, by encouraging TNSPs to deliver reliable and efficient levels of network capability.

4.2 Final decision

The AER has retained the changes proposed in the draft scheme with some amendments to draft clause 5.3(d)(2) of the STPIS to clarify the application of the ex-post review of approved projects at the end of the regulatory control period. The amendments:

- Provide clarity on when a material change will be taken to occur, including specific circumstances for both quantifiable and non-quantifiable projects.

- Require TNSPs to include in the information provided for the annual planning review, steps taken to verify that impending priority projects for the next year still have a material benefit.
- Require TNSPs to justify proceeding with a priority project when there has been a material change, and an outline of factors the AER will consider in deciding whether to penalise the TNSP.

4.3 Issues raised in submissions and AER final decision

The section summarises the issues raised in stakeholder submissions and our final decision on those issues, including our reasons for amendments to our draft decision.

4.3.1 Pro rating the incentive allowance

AEMO, AusNet Services, Grid Australia and Powerlink supported the proposed change to pro rate the incentive allowance. AEMO stated that the changes would help ensure that only projects with clearly demonstrable net benefits are eligible for premium payments.

AER considerations

Given the broad support received from stakeholder submissions, we have decided to uphold the proposed change in the draft scheme to pro rate the incentive allowance.

4.3.2 Consideration of payback period and exploratory projects

Grid Australia considered that the introduction of a requirement to consider payback period should not preclude minor projects of an exploratory nature that have the potential to identify material benefits to customers. It considered that the net present value of a project should remain the key measure used to assess projects because it will ultimately determine whether customers stand to benefit or not.

Powerlink stated that it understood that the AER had previously taken different approaches to payback periods for each TNSP and that individual consideration would be appropriate, particularly as it has not been subject to this component previously.

Powerlink supported our approach to allow exploratory projects as priority projects where it can be demonstrate that the project will reveal important information in assisting in future development.

The MEU stated that firm payback was a prerequisite for its continued support of the NCC. It submitted that priority projects should have a three year maximum payback period. The AER would also have discretion to extend it to four years where the project is in the long term interests of consumers and where it is not included in the TNSP's regulatory expenditure allowance.

By not requiring a firm payback in the draft scheme, the MEU considered that the AER abrogated the rationale of the NCIPAP project. On the AER's comments that a firm payback period may preclude projects with longer payback periods, the MEU noted that such projects

should be addressed within the normal operating and capital expenditure allowances rather than being implemented by the NCIPAP process.

The MEU characterised NCIPAP projects as "nice to have" and not essential to the delivery of services. It contrasted these with the treatment of discretionary projects in competitive firms which require such projects to return the initial capital outlay required in a very short time, or they do not get funding. The MEU considers that regulation should follow these tenets of competition.

AER decision - consideration of payback periods

We have decided to retain the provisions proposed in the draft scheme which require us to consider the payback period of a priority project when considering whether the project will result in a material benefit.

Requiring a firm payback period may potentially exclude worthwhile projects which are either difficult to quantify or have payback periods which fall just outside the proposed three to four year limit.

While an NPV analysis may be more accurate than a payback period analysis over longer periods. The computational effort for a payback period analysis is consistent with the size of the NCC projects (which are less than the $5million cost threshold for RIT-T projects). Another advantage of payback period method, over NPV analysis, is that it indicates how quickly benefits are likely to be realised. NPV analysis may hide that a project relies on benefits accruing in the long term which may not be appropriate for the NCC. However, where an NPV analysis is provided to support a proposed priority project, it will be considered in conjunction with the payback period analysis for the assessment of a material benefit.

Moving forwards, the approach we take in considering payback periods should be consistent across TNSPs and not on an individual TNSP basis. Variations in the approach to payback periods between TNSPs were attributable to the NCC being a new component. Our assessment approach of priority projects has developed in response to lessons learned from each assessment process and feedback from AEMO, TNSPs and other stakeholders. Thus, these variations represent the development of our approach to the assessment of priority projects and not a decision to treat TNSPs differently in the application of the NCC.

AER decision - exploratory projects

In relation to the inclusion of exploratory projects as priority projects, we reiterate our views in the explanatory statement. Exploratory projects can be approved as priority projects under the NCC provided that it can be shown that they results in a material benefit. While our preference is for projects to be quantified, we recognise that there are classes of projects which are difficult to quantify but which may be beneficial to undertake. Such projects may be justified on a qualitative basis and they would not be likely be ranked higher projects with quantifiable benefits.

4.3.3 Ex-post review of priority projects

AusNet Services, Grid Australia and Powerlink all opposed the introduction of ex-post review of priority projects. They each considered it unreasonable to penalise a TNSP for changes outside of their control which occur after it decides to proceed with a priority project based on the best available information at the time. This would weaken the incentives for TNSPs to develop and deliver priority projects.

AusNet Services submitted that an ex-post review would equate to the AER assessing performance with hindsight, which is inconsistent with the ex-ante approach to incentive regulation. This would breach principles of good regulatory practice as the AER could take into account information not available to the TNSP at the time of the investment decision. They argued that is counter to 'light handed' incentive regime, that it would add unreasonably onerous scrutiny that is disproportional to the low cost of NCIPAP projects and that a continuous assessment of real time benefits would add a substantial administrative burden on the AER, AEMO and TNSPs. Grid Australia expressed similar views.

Furthermore, AusNet Services stated that the proposed changes would not be practicable in Victoria, where AEMO estimates project benefits as part of its role as network planner and AusNet Services does not have oversight of the changes in the benefits estimated by AEMO or the information required to re-assess project benefits. AusNet Services proposed that if the AER were to retain the proposed ex-post review in the final scheme an amendment should be added to address the unique circumstances in Victoria.

AusNet Services noted that the current drafting of clause 5.3(d)(2) does not make clear the three conditions that must be met before a TNSP may be taken to not have achieved the priority improvement target.

Grid Australia stated that it is not necessarily feasible to assess the benefits ex-post and ex-ante because it would be difficult to prove ex-post benefits which have been modelled ex-ante and may only be possible with statistical correlation. However, the nature of NCC projects are bespoke and do not lend themselves to statistical analysis.

Powerlink understood that the AER's driver for the ex-post assessment is not to eliminate cost recovery. It requested clarification on the AER's assessment process and retention of decision making rights.

AER decision

The purpose of the ex-post review mechanism is to incentivise the TNSP to monitor changes in its external environment which may affect the benefits of undertaking a priority project and to check before commencing work on that project. It is a logical extension of the provisions in clause 5.4 of STPIS version 5 which enable TNSPs to propose removing approved priority projects where there are changes outside of its control which are likely to nullify the benefits of a priority project. Thus, the ex-post review provisions should not result in additional significant burdens for TNSPs as they would already be verifying during the course of the regulatory control period that their approved priority projects still have a material benefit.

We have amended the ex-post review provisions proposed in the draft scheme. Specifically:

- A new sub-clause 5.2(b)(2)(v) has been introduced which requires the TNSP to provide, for each priority project in its NCIPAP proposal, how the achievement of the priority project improvement targets results in a material benefit.
- A new sub-clause 5.2(s)(5) which requires a TNSP to provide, verification that the assumptions used to justify the material benefit of undertaking a priority project have not materially changed resulting in the priority project no longer having a material benefit. This is to be provided as part of the annual STPIS compliance review, for all priority projects which the TNSP is planning to undertake within the next year.
- Clause 5.3(d)(2) has been amended to:
    - provide greater clarification on when the AER will consider there has been a material change in circumstances which results in the priority project no longer having a material benefit.
    - removing sub-clause 5.3(d)(2)(ii) and (iii) of the draft scheme.
- In relation to clause 5.3(e):
    - A requirement has been introduced for the AER to consider, where there has been a material change which results in a priority project no longer having a material benefit, what steps the TNSP took to verify that a priority project had a material benefit before the completion of the priority project.
    - For AusNet Services, the AER will consider the extent to which AusNet Services sought verification from AEMO that a priority project still had material benefits prior to its completion.

Importantly, the ex-post review proposed in this scheme is not an ex-post review of actual accrued benefits against modelled benefits. We recognise that this would be a time consuming and resource intensive task that is not appropriate given the relative size and cost of approved NCC projects. Rather, clause 5.3(d)(2) requires TNSPs to monitor changes in key assumptions used to justify the material benefit of an approved project, and verify that they have not changed to an extent that would nullify the material benefit before proceeding. This is what a prudent TNSP should do before commencing any proposed network investment.

For example assume the benefits of a priority project benefits are reliant on forecast AEMO gas prices. Prior to proceeding with the priority project a prudent TNSP should verify whether those forecast gas prices have been subsequently updated and if so, whether the updated forecasts still support there being a material benefit to undertake the project.

The changes made to sub-clauses 5.2(b)(2)(v), 5.2(s), 5.3(d)(2) and 5.3(e)(4) in STPIS version 5 are designed to better reflect the rationale outlined above and should not result in additional burden on a prudent TNSP. A TNSP will now be required to provide further information in its NCIPAP proposal on how it has assessed the material benefit of a project. As part of the annual compliance review, the TNSP will be required to report on how it has sought to verify the material benefits of priority projects before commencing them.

This should not result in an additional burden to prudent TNSPs, who would already monitoring projects as they can remove priority projects which no longer have a material

benefit under clause 5.4. As part of our compliance review for the final year of the regulatory control period, if we identify that a material change has occurred for a priority project, we will consider whether to exercise our discretion to reduce the incentive payment received by a TNSP in accordance with clause 5.3(b). In accordance with the new sub-clause 5.3(e)(4), we will consider what steps the TNSP took to verify that a priority project had a material benefit before the completion of the priority project. Examples of factors we may examine under this sub-clause are:

- Whether it sought verification from AEMO or another relevant third party that undertaking a priority project would still result in a material benefit prior to the commencement of the priority project.
- When the TNSP became aware, or should have become aware, of the material change and the extent it had progressed in the implementation of the priority project. Would it still be reasonable for the TNSP to halt development of the priority project?
- If the material benefit was quantified using publicly available forecasts or data, at what date were updated forecasts or data made publicly available. and
- If material benefit depends on demand forecasts, whether a TNSP identifies a change in the demand forecast during its annual planning review under clause 5.12 of the Rules.

Thus, the provisions are designed to penalise a TNSP where it has elected to continue with a project after it is evident that the conditions on which its benefits would be delivered are no longer forecast to occur. We have designed this to work in conjunction with and enhance the provisions which enable a TNSP to remove or delete a project from its NCIPAP and examine conditions that may warrant a replacement project. It is not the intention of the NCC to unreasonably punish TNSPs for this where they have taken prudent steps to verify a priority project still has material benefits prior to the commencement of the project.

In many circumstances, if the TNSP can show that it has taken reasonable steps to verify that undertaking a priority project still has material benefits prior to commencing the priority project, especially if verified by a third party such as AEMO, then it is unlikely it will be penalised if there is subsequent a material change which deprives a priority project of its material benefit.

These changes are consistent with the STPIS principles set out in clause 6A.7.4(b) and the NEO by incentivising TNSPs to only complete projects which benefit network users.

In addition, to address the concerns raised by AusNet Services that it is not responsible for the assessment of benefits, a sub clause 5.3(e)(5) has been included to require us to take into account whether AusNet Services obtained verification from AEMO that a priority project still had material benefits prior to the completion of the projects. This will also include consideration of the timeliness of AEMO's response to AusNet Services.

When we notified AusNet Services of the then proposed changes introducing verification of projects and sub clause 5.3(e)(5), it raised concerns that this approach created compliance risks and uncertainty risks around the implementation of priority projects, as they would be reliant on AEMO providing a timely response. While we recognise that AEMO has a more extensive role in Victoria where it jointly identifies NCIPAP projects with AusNet Services for

the declared shared network, it is appropriate that AusNet Services bears the burden of seeking and obtaining verification of AEMO as it is ultimately the TNSP which is rewarded under the NCC for the implementation of a priority project.

As draft 5.3(d)(2) of the STPIS version 5 has been amended, with two sub clauses being removed, it is no longer necessary to clarify whether a TNSP must satisfy the three conditions set out in the draft clause before they are taken to not have achieved the priority project improvement target.

4.3.4 Penalty for overspend

AusNet Services proposed that the penalty should be limited to the overspend amount. It observed that that clause 5.3(d) of STPIS version 4 allows the AER to deem a project to not have met its priority project improvement target if this target has been achieved at a cost greater than the proposed amount. It commented that the practical application of this provision is that should a TNSP overspend on a priority project by one dollar, but still achieve the improvement target, it would be penalised under the scheme.

AER considerations

The NCC already contains mechanisms which address the concerns outlined by AusNet Services. Clause 5.3(d)(1) doesn't result in an automatic penalty under the scheme, rather, this gives us the discretion to penalise the TNSP.[9] In the scenario outlined by AusNet Services, it is unlikely that we would impose a penalty as, assuming no change in the benefits associated with the project, it has resulted in a material benefit and there is only a minor overspend. Thus, the NCC already gives us the discretion to ensure TNSPs are not unduly punished for minor overspends. Further, introducing a penalty tied to overspend may not achieve the desired result, as it may incentivise TNSPs to provide high end cost estimates of priority projects to avoid potential future penalties for overspending.

4.3.5 Greater flexibility for TNSPs to propose additional projects

AEMO, AusNet Services, Grid Australia and Powerlink supported the proposed amendments providing TNSPs with greater flexibility to propose additional priority projects. In addition, Grid Australia noted that there may be circumstances where the TNSP wishes to withdraw a project and is not willing or able to propose an alternative project. The NCC does not currently appear to address this possible decision path.

AER considerations

The NCC already allows TNSPs to withdraw a priority project and not replace it with another priority project. Clause 5.4(a) of the STPIS version 5 allows a TNSP to propose to remove a priority project when it submits its annual compliance report. Separately, clause 5.4(b) of STPIS version 5 allows a TNSP to propose to add additional priority projects when it submits its annual compliance report. Thus, a TNSP can propose to remove a project under clause

[9] STPIS ver.5, cl.5.3(b). In the exercise of this discretion, we must consider the factors outlined in clause 5.3(e).

5.4(a) of STPIS version 5 without proposing a new 'replacement' priority project under clause 5.4(b) of STPIS version 5.

4.3.6 Role of AEMO

AEMO supported the proposed amendments setting out the information a TNSP must provide AEMO and which clarified AEMO's role in the NCC process.

AusNet Services noted that the change in AEMO's role to enable it to identify proposed projects will not impact them as AEMO is responsible for identifying all priority projects in Victoria.

Powerlink expressed concerns about the additional information TNSPs are required to provide AEMO under the proposed amendments. Specifically, clause 5.2(j)(3) requires to TNSP to provide information 'which may be reasonably necessary to understanding nature of the… network limits.' It considered that the provision is not only broad, but also unclear as to whether the AER or AEMO would deem the information is reasonable necessary. Powerlink recommended that the clause should be limited to information that is only for the purpose of assessing NCIPAP projects and that the AER retain its decision making rights.

AER considerations

Clause 5.2(j)(3) is necessarily broad to ensure that AEMO has sufficient information not only to review proposed priority projects but also develop and propose alternative priority projects. Given the diverse range of potential NCIPAP projects, information which is required by AEMO to understand the nature of the relevant network limitations, and to review and develop projects which address them will vary from case to case. This clause ensures that AEMO has access to such information at hand.

In addition, the term 'reasonably necessary' is a common term used in regulatory and legal documents, and should be well-understood by both AEMO and TNSPs. We do not consider it will likely give rise to disputes between a TNSP and AEMO about information is required to be provided. The NCC requires that AEMO and a TNSP work closely together in the assessment of network limitations and the development of NCIPAP projects. It is an iterative process, which will involve a lot of formal and informal exchanges between the two parties. Through this process, it should become clear what information is and is not 'reasonably necessary' in order for AEMO to perform its role. It is not a situation where AEMO asks for the information to be provided without having gone through the process of engagement with the TNSP.

As outlined in the explanatory statement, we consider that the amendments to clarifying the role of AEMO and the information required to be provided by TNSPs to AEMO helps ensure that the objectives of the NCC are met, which promotes the principles set out in clause 6A.7.4 and the NEO.

4.4 Minor amendments

A minor amendment has made to clause 5.2(c) to clarify that a priority project must result in a material benefit and not just the improvement target and is consistent with other clauses (i.e. 5.2(l)) which refer to the priority project having a material benefit.

5 Other issues

5.1 Publication of STPIS data

MEU requested the AER publish the STPIS data on its website.

AER considerations

Historical data is updated annually once the compliance review is complete as is available on the AER's website. It would be a computational burden for TNSPs to produce and publish monthly or year-to-date performance measures any more frequently and our assessment is completed annually.

5.2 Compliance review

Grid Australia noted that recent Rule changes made by the AEMC now require that TNSP prices must be published by 15 March each year. In order of the TNSP to consult properly with its billing customer prior to publication, Grid Australia noted the importance for the AER to publish its compliance review reports by 1 March each year. For this reason, Grid Australia has requested the AER to meet its agreed timeframe in this respect in future.

AER considerations

Prior to our draft decision, we explored the idea of moving to a financial year assessment. However, we were unable to align the processes for STPIS version 5 as this would require an amendment to the TNSP information guidelines, which sets the timelines for the annual STPIS compliance review and is beyond the scope of this review.[10] We recognise that the timeframe for the annual compliance review is very tight, and it is our expectation that TNSPs will be required to provide compliant submissions with sufficient evidence and explanation to demonstrate their claim (for exclusion) within the timeframes set out in the TNSP information guidelines to ensure that the 1 March deadline is met.

[10] http://www.aer.gov.au/node/29071.