# Draft Decision

## TasNetworks Electricity Transmission Determination 2024 to 2029

(1 July 2024 to 30 June 2029)

## Attachment 10
## Service target performance incentive scheme

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AUSTRALIAN ENERGY REGULATOR

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# 10 Service target performance incentive scheme

The Service Target Performance Incentive Scheme (STPIS) provides a financial incentive to transmission network service providers (TNSPs) to maintain and improve service performance. The current version of the STPIS (version 5) will apply to TasNetworks, including the three standard components of the STPIS—the service component (SC), market impact component (MIC) and network capability component (NCC).

The SC provides a reward/penalty of +/-1.25% of maximum allowed revenue (MAR per year) to improve network reliability, by focussing on unplanned outages. The SC is designed to encourage TNSPs 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 is also designed to indicate potential reliability issues.[1]

The MIC provides an incentive to TNSPs to minimise the impact of transmission outages that can affect wholesale market outcomes. Under the MIC, TNSPs receive a reward/penalty of up to +/-1% of MAR for the relevant calendar year. The MIC measures performance against the market impact parameter which is the number of dispatch intervals (DIs) where an outage on the TNSP's network results in a network outage constraint with a marginal value greater than $10/MWh (MIC count).[2]

The NCC is to encourage TNSPs to develop operational and capital expenditure projects that improve the capability of the transmission network at times when network users place greatest value on the reliability of the transmission system. Suitable projects (up to a total of 1% of the proposed MAR per year) are proposed in return for a pro-rata incentive payment of up to 1.5% of MAR depending on the successful completion of the projects. This component encourages TNSPs to examine their networks to identify suitable low-cost one-off projects.

## 10.1 Draft decision

We will apply version 5 of the STPIS to TasNetworks for the 2024–29 regulatory control period (2024–29 period). Our draft decision outlined below is based on TasNetworks' historical performance data including the 2022 calendar year.[3]

1 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 2.2(a)(1–3).

2 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix C

3 Under STPIS, performance targets calculations must be based on performance history data up to the year ending immediately prior to the submission of the revenue proposal.

## Table 10.1 Draft decision — Service Components caps floors and target for 2024–29

| Parameter | Floor | Target | Cap |
|---|---|---|---|
| **Unplanned outage circuit event rate (%)** | | | |
| Transmission line — fault | 20.99 | 15.77 | 11.64 |
| Transformer — fault | 10.67 | 6.20 | 2.25 |
| Reactive plant — fault | 27.40 | 13.85 | 1.44 |
| Transmission line — forced | 28.26 | 17.84 | 10.65 |
| Transformer — forced | 14.58 | 6.54 | 2.53 |
| Reactive plant — forced | 29.99 | 20.00 | 6.88 |
| **Loss of supply events frequency** | | | |
| No. of events > 0.10 system minutes | 8 | 4 | 1 |
| No. of events > 1.00 system minutes | 3 | 1 | 0 |
| **Average outage duration** | | | |
| Average outage duration | 552 | 131 | 16 |
| **Proper operation of equipment** | | | |
| Failure of protection system | 8 | 4 | 1 |
| Material failure of SCADA | 4 | 1 | 0 |
| Incorrect operational isolation of primary or secondary equipment | 5 | 2 | 0 |

Source: AER Analysis

## Table 10.2 Draft decision — Market Impact Component parameter values for 2024–29

| Parameter | |
|---|---|
| Target (DIs) | 1968 |
| Unplanned outage event limit (DIs) | 335 |
| Dollar per dispatch interval ($/DI) | $829 |

Source: AER Analysis

## Table 10.3 Draft decision — Network Capability Component for 2024–29

| Priority project name | Proposed capex ($ million) | Proposed opex ($ million) | Amount approved ($ million) |
|---|---|---|---|
| 1. Palmerston Substation terminal equipment upgrade | 3.77 | 0 | 3.77 |
| **Total** | **3.77** | **0** | **3.77** |

Source: AER Analysis, TasNetworks-AEMO Review of TasNetworks' Network Capability Incentive Parameter Action Plan-Dec 22-Public (endorsement letter)
Note: Values rounded up to millions

## 10.2 TasNetworks' proposal

TasNetworks' revenue proposal sought to apply version 5 of the STPIS as follows:

- The SC parameter targets are set equal to average historic performance and the caps and floors are set at the 5th and 95th percentiles of historical performance.[4]

  With respect to the SC, TasNetworks proposed the caps and floors for the 10 sub-parameters derived from the appropriate probability distribution simulations using the 2017-21 historical performance data. TasNetworks stated that these sub-parameter values would be updated at the revised proposal stage once the 2022 performance data is available.[5]

- The MIC performance data from 2015–21 has been included to enable calculation of the parameter values set out in clause 4.2(b)(1)–(3) of the STPIS, being the annual performance target, the unplanned outage event limit and the dollar per dispatch interval incentive.

  TasNetworks considers the current design of the MIC is not suited to the current and future network operating conditions in Tasmania. It proposes that the MIC applied for the next regulatory control period be revised.[6] We note TasNetworks' concerns and will consider TasNetworks' suggestions when the review of the Transmission STPIS will be undertaken in the second half of 2023.

  TasNetworks' proposal to revise the MIC is further discussed under the Reasons for draft decision, section 10.6.2, below where it is compared against the MIC exclusions clarification made for AusNet's 2022-27 final decision.

- The NCC includes one priority project to improve network capability. The total proposed cost of the NCC is approximately $3.77 million, which may lead to an incentive reward up to 50% of the cost. This would amount to around $5.7 million over the 2024–29 period if the relevant conditions are met.[7]

## 10.3 Assessment approach

A revenue determination for a TNSP specifies, amongst other things, the annual building block revenue requirement for each regulatory year of the regulatory control period. In turn, the annual building block revenue requirement must be determined using a building block approach, under which, one of the building blocks is the revenue increments or decrements (if any) for that year arising from the application of any STPIS (and other schemes). We have assessed TasNetworks' revenue proposal against the requirements of STPIS version 5.

### 10.3.1 Service component

We assessed whether TasNetworks' proposed performance targets, caps and floors comply with the STPIS requirements for:

4 TasNetworks Combined Proposal 2024-29 - Attachment 12, p. 5.

5 TasNetworks Combined Proposal 2024-29 - Attachment 12, p. 5.

6 TasNetworks Combined Proposal 2024-29 - Attachment 12, p. 6.

7 TasNetworks Combined Proposal 2024-29 - Attachment 12, p. 7.

- average circuit outage rate, with 6 sub-parameters[8]
- loss of supply event frequency, with 2 loss of supply event sub-parameters[9]
- average outage duration[10]
- proper operation of equipment, with 3 sub-parameters.[11]

Under the STPIS, we accept TasNetworks' proposed parameter values if they comply with the requirements of clause 3.2 of STPIS. We may reject the values if they are inconsistent with the objectives of the STPIS.[12] We measure actual performance for the 'average circuit outage rate' and 'average outage duration' parameters on a two-calendar year rolling average in accordance with Appendix E of the STPIS.

We assessed TasNetworks' SC proposal against the requirements of the STPIS to determine whether:[13]

- TasNetworks' data recording systems and processes produce accurate and reliable data and whether the data is recorded consistently based on the STPIS parameter definitions
- the proposed performance targets were equal to the average of the most recent 5 years of performance data
- any adjustments to the proposed targets are warranted and reasonable
- TasNetworks applied a sound methodology, with reference to the performance targets, to calculate the proposed caps and floors
- any adjustment to a performance target was applied to the cap and floor of that parameter.

We also assessed the probability distributions applied by TasNetworks to calculate caps and floors to determine whether a sound methodology was used.

### 10.3.2 Market impact component

We assessed TasNetworks' MIC proposal against the requirements of the STPIS to determine if:

- data used to calculate the market impact parameter is accurate and reliable, and consistently recorded based on the parameter definition in Appendix C[14]
- the proposed performance target was calculated in accordance with the requirements of clause 4.2(g) in version 5 of the STPIS

8 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix A, p. 26.
9 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix A, p. 26
10 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix A, p. 30.
11 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, Appendix A, p. 32.
12 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 3.2.
13 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 3.2.
14 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, clause 4.2(c).

- the proposed unplanned outage event limit has been calculated in accordance with the requirements of clause 4.2(h) in version 5 of the STPIS
- the proposed dollar per dispatch interval has been calculated in accordance with clause 4.2(j) in version 5 of the STPIS.

Where TasNetworks' proposed values for the market impact parameter do not comply with the requirements of the STPIS or is otherwise inconsistent with the objectives of the STPIS[15], we will reject the proposed values and provide substitute values which comply with the STPIS.

### 10.3.3 Network Capability Component

We assessed TasNetworks' NCC against the STPIS requirements to take into account:[16]

- the likely effect of the priority project improvement on wholesale market outcomes, including inter-regional outcomes
- the likely effect of the priority project improvement in ensuring that the transmission network can meet demand at an injection point without major network augmentation or replacement
- whether the priority project improvement is appropriate, taking into account the forecast changes in demand at a relevant injection point
- the benefits to consumers resulting from the priority project improvement
- the extent to which a TNSP would be incentivised or required to undertake such a project under the NER or any other applicable regulatory obligations
- the time taken for a project to have a net positive benefit
- any relevant information contained in the TNSP's most recent annual planning report
- whether the average total expenditure of all the TNSP's priority projects in each regulatory year is not greater than 1% of the TNSP's annual average MAR.[17]

## 10.4 Interrelationships

The STPIS considers any other provisions in the NER that incentivise TNSPs to minimise capital expenditure (capex) or operating expenditure (opex). One of the objectives of the STPIS is to assist in the setting of efficient capital and operating expenditure allowances by balancing the incentive to reduce actual expenditure with the need to maintain and improve reliability for customers and reduce the market impact of transmission congestion.

The STPIS will interact with the capital expenditure sharing scheme (CESS) and the opex efficiency benefit sharing scheme (EBSS). The STPIS allows us to adjust the performance targets of the SC for the expected effects on the TNSP's performance from any increases or

15 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl 4.2(d).

16 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 5.2(l).

17 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 5.2(b)(2)(vi).

decreases in the volume of capital works planned during the regulatory control period.[18] In conjunction with the CESS and the EBSS, the STPIS will ensure that:

- any additional investments to improve service quality are based on prudent economic decisions
- reductions in capex and opex are achieved efficiently, rather than at the expense of service levels to the network users.

## 10.5 Submissions

AER did not receive any submissions regarding the application of transmission STPIS to TasNetworks' 2024-29 period.

## 10.6 Reasons for draft decision

We calculated TasNetworks' performance target values using the most recent performance data available to us during the 2015–22 period.

We will apply version 5 of the STPIS along with the AER's MIC exclusions guidance note.[19] The reasons for our draft decision are outlined below.

### 10.6.1 Service component

#### Performance Targets

Performance targets must equal the TNSP's average performance history over the past five years unless they are subject to an adjustment under clause 3.2(i) or (j) of the STPIS.

- We have not accepted TasNetworks' calculated SC targets because they are not based on the latest available historical data for 2018–22. We understand that 2022 data was not available to TasNetworks when its revenue proposal was being prepared.
- We have determined performance targets that are equal to the arithmetic mean of the 2018–22 performance data.

The results are outlined in Table 10.1.

#### Caps and floors

Proposed caps and floors must be calculated with reference to the proposed performance targets using a sound methodology. In arriving at our draft decision, we calculated TasNetworks' cap and floor values using our @risk model (Table 10.4).[20] Our approach used 2018–22 performance data that was available to us to determine a statistical distribution that best fits that data—with the caps and floors set at 2 standard deviations either side of the mean (using a normal distribution); or at the 5th and 95th percentiles (if using a distribution other than the normal distribution).

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18 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, cl. 3.2(j)(2).

19 Guidance note: Transmission Service Target Performance Incentive scheme, April 2023

20 Our @risk model has been used to set the cap and floor range in most of our recent determinations.

**Table 10.4 Draft decision — Distribution, Floors and Caps for 2024–29**

| Parameter | Distribution | Floor (95th percentile) | Cap (5th percentile) |
|---|---|---|---|
| **Unplanned outage circuit event rate (%)** | | | |
| Transmission line - fault | Pearson5 | 20.99 | 11.64 |
| Transformer - fault | Weibull | 10.67 | 2.25 |
| Reactive plant - fault | Uniform | 27.40 | 1.44 |
| Transmission line - forced | Pearson5 | 28.26 | 10.65 |
| Transformer - forced | Pearson5 | 14.58 | 2.53 |
| Reactive plant - forced | Triang | 29.99 | 6.88 |
| **Loss of supply events frequency** | | | |
| No. of events > 0.10 system minutes | Poisson | 8 | 1 |
| No. of events > 1.00 system minutes | Geomet | 3 | 0 |
| **Average outage duration** | | | |
| Average outage duration | LogLogistic | 552 | 16 |
| **Proper operation of equipment** | | | |
| Failure of protection system | Poisson | 8 | 1 |
| Material failure of SCADA | Geomet | 4 | 0 |
| Incorrect operational isolation of primary or secondary equipment | Poisson | 5 | 0 |

### 10.6.2 Market Impact Component

#### Performance targets

The MIC performance target is calculated in accordance with clause 4.2(g) of version 5 of the STPIS.

- Based on its historical data for the period 2015–21, TasNetworks' has proposed a performance target of 1968 dispatch intervals.21
- TasNetworks' calculated performance data is not based on the latest available historical data for the 7 years 2016–22.
- We used the MIC historical data for the 7 years 2016–22 to calculate the TasNetworks' MIC performance target for 2024-29 period.

TasNetworks considers the current design of the MIC is not suited to the current and future network operational conditions in Tasmania. It proposes that the MIC applied for the next regulatory control period be revised. Instead, TasNetworks proposes moving to a scheme similar to that historically used in the United Kingdom to incentivise the system operator to manage network outages.

In its revenue proposal, TasNetworks suggested that the MIC could operate as follows:

21 TasNetworks-TasNetworks-STPIS targets Transmission-Dec 2022-Public.xlsx

- a secure page could be established on, for example the Australian Energy Market Operator's (AEMO's) website, access to which would be restricted to registered market participants
- each TNSP would place a notification of planned work in relation to a specified line and the timeframe required to complete the work
- the notification would be provided at least 13 months prior to a planned outage
- market participants would be given an automatic message when the page was updated
- market participants would have a month to provide feedback to the TNSP on their references for the timing of the outage
- the TNSP would weigh up the responses and determine the proposed timeframe for the outage
- if a market impact occurs as the result of the outage, the TNSP would provide the AER with the relevant information supporting the rationale for the timing of the proposed outage
- if it is demonstrable that the TNSP undertook the outage at the best time, no MIC penalty would apply.

TasNetworks further suggested that, to ensure symmetry in the scheme, a TNSP would initially be provided a bonus reflecting the cost of undertaking each consultation. A penalty would arise if a TNSP decided not to consult or was found to not have undertaken the outage at the appropriate time, with the current MIC count being used to calculate the size of the penalty.

We have previously provided guidance on how the MIC exclusion criteria should be applied to ensure only outages within the reasonable control of TNSPs were counted under the STPIS in AusNet Services' 2022–27 determination. [22]

In our AusNet Service's decision, we acknowledged that there had been a significant increase in semi-dispatched renewable generators in Victoria, particularly in the north-western regions. The management of the integration of those semi-dispatched renewable generators had resulted in a large number of excluded dispatch intervals, that were outside the control of AusNet Services.

Subsequently we published the STPIS Guidance Note: market impact component data period and exclusions on 6 April 2023.[23] We did not consider that the MIC required a fundamental redesign at that time.

TasNetworks is not seeking clarification of the application of the MIC in the current scheme, but proposes a revision of the current MIC. This is beyond the scope of this determination. We met with TasNetworks to discuss its recommendation for changes to the MIC. TasNetworks acknowledged its proposal would require a review of the scheme, and

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22 AER - Final Decision - AusNet Services transmission 2022-27-Attachment 10 -Service target performance incentive scheme – 28 January 2022

23 AER – STPIS guidance note - Market Impact Component data period and exclusions clarification – April 2023

TasNetworks did not expect any changes in the upcoming regulatory period. At the time of writing its proposal, TasNetworks was not aware of our imminent review of the MIC and confirmed that it will raise its proposal through the MIC review process (to commence prior to the end of 2023).

Our draft decision is to apply the version 5 of the STPIS to TasNetworks for the 2024–29 period, using the latest available historical data for the 7 years 2016–22.

### 10.6.3 Network capability component

STPIS Clause 5.2(h) requires TNSPs to consult with AEMO prior to submitting priority project proposals to us under the NCIPAP. AEMO assesses project need, improvement targets, likely material benefits, and ranking of the projects. Also, STPIS clause 5.2(b)(2)(vi) requires that the average total expenditure of the priority projects outlined in each regulatory year must not be greater than 1% of TasNetworks' average annual maximum allowed revenue.

#### Priority Project 1: Palmerston Substation terminal equipment upgrade

We have accepted the priority project 1 as its total expenditure is within the required limits of maximum allowed revenue. The project was also endorsed by the Australian Energy Market Operator (AEMO) in its role of reviewing TasNetworks' NCIPAP.[24] Additionally, the project is likely to deliver a material benefit to consumers as required by the STPIS.[25]

TasNetworks proposed to include one project under the NCIPAP: Palmerston Substation terminal equipment upgrade project. The scope of project includes upgrading terminal equipment at Palmerston Substation for two Waddamana–Palmerston 220 kV transmission lines. It has an estimated value of $3.77 million and an estimated annual market benefit of $1.63 million.

The STPIS requires TNSPs to consult with AEMO prior to submitting the NCIPAP about transmission circuits and injection points in its network, and the potential priority project. TasNetworks consulted with AEMO prior to submitting the project to the AER.

AEMO agreed with TasNetworks' assessment of the project need, improvement targets and likely material benefits of the proposed NCIPAP. AEMO's assessment stated that the [26]

- existing thermal ratings of terminal equipment at Palmerston of Waddamana - Palmerston No.1 and No.2 220 kV lines are 453 MVA and 569 MVA respectively
- ratings of these terminal equipment limit northward power flow capability of Waddamana-Palmerston corridor is approximately 1,000 MVA
- 2022 ISP forecasts additional new wind generation of 400 MW in 2025-26 and 1,170 MW in 2030-31 in the Central Highlands Renewable Energy Zone (REZ) and this forecast is credible

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24 TasNetworks-AEMO Review of TasNetworks' Network Capability Incentive Parameter Action Plan-Dec 22-Public, 16 Dec 2022.

25 AER, *Final – Service Target Performance Incentive Scheme*, October 2015, clause 5.2 (c).

26 TasNetworks-AEMO Review of TasNetworks' Network Capability Incentive Parameter Action Plan-Dec 22-Public, 16 Dec 2022, p.2.

- project increases the thermal rating of terminal equipment of each of the Waddamana-Palmerston 220 kV lines to 762 MVA to allow up to 530 MW of forecast new wind generation in Central Highlands REZ.

AER reviewed TasNetworks' project proposal along with AEMO's endorsement letter and considered that the proposed priority project meets the objectives and requirements of the STPIS.

We agree with TasNetworks' proposal and include the project in TasNetworks' 2024-29 regulatory control period.

# Glossary

| Term | Definition |
|---|---|
| Capex | Capital expenditure |
| CESS | Capital expenditure sharing scheme |
| DI | Dispatch interval |
| EBSS | Efficiency benefit sharing scheme |
| F&A | Framework and approach |
| MAR | Maximum allowed revenue |
| MIC | Market impact component |
| NCC | Network capability component |
| NCIPAP | Network capability incentive parameter action plan |
| NER | National Electricity Rules |
| Opex | Operating expenditure |
| SC | Service component |
| SCADA | Supervisory control and data acquisition |
| STPIS | Service target performance incentive scheme |
| TNSP | Transmission network service provider |