



# **Proposed amendments to the Tasmanian Electricity Code**

**Consultation Paper**

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Office of the Tasmanian Economic Regulator

Level 3, 21 Murray Street, Hobart TAS 7000

GPO Box 770, Hobart TAS 7001

Telephone: (03) 6145 5899

[office@economicregulator.tas.gov.au](mailto:office@economicregulator.tas.gov.au)

[www.economicregulator.tas.gov.au](http://www.economicregulator.tas.gov.au)

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# 1 INVITATION FOR SUBMISSIONS

This Consultation Paper has been prepared to assist interested persons and stakeholders in making submissions on the proposed amendments to the Tasmanian Electricity Code (the Code). The Tasmanian Economic Regulator (the Regulator) will consider submissions prior to the proposed amendments being finalised and taking effect.

It is the Regulator's policy to publish all submissions on the Office of the Tasmanian Economic Regulator's (OTTER) website unless the author of the submission requests confidentiality in relation to the submission (or any part of the submission). Those parts of a submission that are requested to be kept confidential should be submitted as an attachment to that part suitable for publication.

The Regulator will not publish submissions which contain material that the Regulator believes is, or could be, derogatory or defamatory.

Submissions should be received by close of business on Friday 4 August 2023.

To facilitate the publication of submissions on the OTTER website, submissions in electronic form are preferred. Submissions and enquiries may be submitted to:

[office@economicregulator.tas.gov.au](mailto:office@economicregulator.tas.gov.au)

or to

Tristan Patterson, Acting Assistant Director, Regulatory, Compliance and Performance

Office of the Tasmanian Economic Regulator

GPO Box 770

Hobart 7001

Telephone: 03 6145 5899

This Consultation Paper is available at [www.economicregulator.tas.gov.au](http://www.economicregulator.tas.gov.au). Please access it via the 'Consultations' tab.

Following consideration of all submissions, the changes (with or without alteration) will be incorporated into the Code and published on OTTER's website.

## 2 INTRODUCTION

The Regulator's functions with regard to the electricity supply industry in Tasmania are set out in the *Electricity Supply Industry Act 1995* (the ESI Act). The Code, established under Division 9 of the ESI Act, prescribes terms and conditions relating, or incidental, to the electricity supply industry in Tasmania.

Following Tasmania's entry to the National Electricity Market in 2005, where responsibilities for retail licensing, network pricing regulation, and most technical standards were transferred to the Australian Energy Regulator and the Australian Energy Market Operator, the Code is now largely focused on specific jurisdictional matters that are not covered by national laws. These matters include:

- licensing fees;
- distribution system operations;
- distribution power-line vegetation management;
- administrative procedures; and
- supply and retailing on the Bass Strait Islands (BSI).

The Hydro-Electric Corporation (Hydro Tasmania) wrote to the Regulator on 31 May 2023, proposing amendments to the BSI generation performance standards prescribed in Chapter 4A of the Code.

Chapter 4A of the Code prescribes operating standards, procedures and practices for the system operations and network service provision on Flinders Island and King Island (referred to as the Bass Strait Islands or BSI).

Chapter 4A sets out:

- Provisions for the technical regulation for generation, power system operations, and distribution of electricity on the BSI;
- the requirements for BSI power system participants that are not specified in licences;
- power quality standards on the BSI, including frequency control and performance standards; and
- provisions for connection to the BSI power system through commercial agreements.

This Consultation Paper provides information on the proposed amendments to the Code.

### **3 ELECTRICITY SUPPLY ON KING AND FLINDERS ISLAND**

King Island and Flinders Island are not part of the National Electricity Market, due to their remote location. Hydro Tasmania is responsible for generation, distribution and retailing of electricity on the BSI. Electricity generation on the BSI has historically been provided by diesel generators. However, Hydro Tasmania began the process of diversifying electricity generation on both islands during the 2010s.

The King Island Renewable Energy Integration Project (KIREIP), completed during 2013-14, installed 2.45 MW of wind generation, 470 kW of solar photovoltaic (PV) generation and 3 MW of battery storage on King Island, alongside system security and stability tools such as two 1 MVA flywheels and a 1.5 MW dynamic resistor.

The Flinders Island Hybrid Energy Hub (the Hub), completed during 2017-18, installed 900 kW of wind generation, 200 kW solar PV and 750 kW of battery storage alongside an 850 kVA flywheel and a 1.5 MW dynamic resistor.

These programs have altered the electricity generation mix on the BSI significantly, leading to changes in how the networks function. The frequency of annual system black events has decreased on both islands, indicating improved and more robust system performance. However, Hydro Tasmania has advised that when a system black event does occur it is likely to take longer to rectify the cause and restore supply in a safe manner because the system is more complex than when the standards were first introduced.

#### **3.1 System black events**

A large-scale blackout of the power system is called a system black event. Under the previous diesel-only generation arrangements on the BSI, system black events were relatively common. Following the completion of the KIREIP and the Hub, in 2013-14 and 2017-18 respectively, a significant reduction in the number of system black events occurred.

On King Island, where the current performance standard is eight system black events per annum, there have been only four system black events between 2014-15 and 2021-22. On Flinders Island, where the current performance standard is 20 system black events per annum, there have only been four system black events since the Hub's completion in 2017-18.

Hydro Tasmania has advised that system improvements have increased the resilience of the King and Flinders Island systems to allow for better system response to faults, reducing system black events on both islands. Hydro Tasmania has consistently met the current standard for the number of system black events on the BSI since the completion of the generation diversification projects on the respective islands.

Clause 4A.4.2 of the Code requires Hydro Tasmania (as the licenced generator) to use reasonable endeavours to ensure that the incidence of planned and unplanned interruptions to customer supply attributable to generation (ie system blacks) do not exceed 20 per annum on Flinders Island and eight per annum on King Island. The Regulator proposes to amend the performance standard for system blacks on the BSI to five annual system blacks on each island.

### 3.2 Duration of system black events

While diversified electricity generation on the BSI has reduced the number of system black events, increased system complexity means that it generally takes longer to identify a fault and restore the system.

This is reflected in annual average restoration times falling outside of the average system restoration time standard in a number of instances. Average restoration times, particularly on Flinders Island, have increased since the completion of the KIREIP and Hub projects.

Clause 4A.4.2 of the Code prescribes average system restoration standards for each island.

	Average System Restoration Time	
	06:00 - 21:59	22:00 - 5:59
Flinders Island	12.50 minutes	22.50 minutes
King Island	13.75 minutes	23.75 minutes

Hydro Tasmania states that, having reviewed the activities required to complete a black start procedure, the restoration standards are not achievable in most instances.

Generation sites on the BSI are not manned 24 hours a day, requiring staff to travel to generation sites, and Hydro Tasmania is concerned that attempts to meet the current restoration standards could have safety implications for staff.

Hydro Tasmania has performed a bottom-up assessment of the time that each step of the restoration process takes to arrive at the proposed restoration time standards. In addition to reflecting the increased complexity, the proposed standards were also driven by concerns for safety of Hydro Tasmania's workers, as the current standards, which Hydro Tasmania considers to be too low for the complexity of the task, could promote unsafe behaviour when workers to restore the system following a system black event.

The Regulator proposes to replace the current average system restoration time standards with consistent standards on both islands of 30 minutes during the period 06:00 to 21:59 and 60 minutes during the period 22:00 to 5:59.

## 4 PROPOSED AMENDMENTS TO THE TASMANIAN ELECTRICITY CODE

The Regulator proposes to amend Clause 4A.4.2 of Chapter 4A.4 of the Code to:

- replace the current performance standard for system blacks on the BSI with a standard of five annual system blacks on each island; and
- replace the current average system restoration time standards with consistent standards on both islands of 30 minutes during the period 06:00 to 21:59 and 60 minutes during the period 22:00 and 5:59.

A marked-up version of Clause 4A.4.2, outlining the proposed amendments, follows:

#### 4A.4.2 Generation Performance Standards

If required by its *licence* to comply with this clause 4A.4.2, a *Generator* must use reasonable endeavours to ensure that the incidence of planned and unplanned interruptions to the *Customers* attributable to *generation* performance does not exceed the prescribed standards as set out in Table 4A.6.

**Table 4A.6: Generation Performance Standards**

Supply area category	Annual number of system blacks	Average reliability	
		Average System Restoration Time	
		06:00 - 21:59	22:00 - 05:59
Flinders Island	<del>20</del> 5	<del>12.50</del> 30 mins	<del>22.50</del> 60 mins
King Island	<del>8</del> 5	<del>13.75</del> 30 mins	<del>23.75</del> 60 mins