

## Terms of Reference

### Investigation into electricity supply interruptions of 9 August 2021

#### Purpose

- To understand the causes of power supply interruptions on the evening of 9 August 2021, when more than 34,000 consumers lost power in the evening following a direction from the System Operator to curtail national demand, and
- To learn lessons from the event to identify and recommend improvements to ensure similar circumstances are better managed in future.

#### Background

In the evening of Monday 9 August 2021, Transpower, the electricity industry's System Operator, issued instructions to electricity distributors and its directly-connected customers to reduce demand by 1 per cent, in order to balance supply with demand during the evening peak demand period. This resulted, among other things, in a power cut for more than 34,000 consumers.

The Minister of Energy and Resources has directed the Ministry of Business, Innovation and Employment (MBIE) to investigate and report on this event.

#### Scope

The investigation will investigate and report on the causes and factors contributing to the power supply interruptions of 9 August, and make recommendations that will enable relevant parties (including Transpower, the Electricity Authority, and electricity industry participants) to reduce the risk of supply interruptions and to appropriately manage any demand curtailment that might result from insufficient generation or other constraints.

The investigation will address the following questions, and any other matters consistent with the purpose of the investigation.

#### *Communications when interruptions are imminent or expected*

1. When there is a material risk that power will be curtailed, as a last resort emergency measure, how can consumers be better informed of the timing and duration of any power interruption?
2. What improvements to industry communication processes are needed to ensure medically dependent and vulnerable consumers are given adequate notice of power interruptions?
3. What improvements are needed for the system of notices that signal a potential shortage situation to generators, network businesses and directly-connected customers?
4. What improvements can be made to ensure timely and effective communications for other stakeholders, including the Minister, regulators and relevant officials, emergency services and health or welfare services?

#### *Forecasting, scheduling and risk margins*

5. Was all operable generation plant operating at its maximum available capacity during the evening peak on 9 August and if not why not?
6. What improvements could be made to the methods and processes used to forecast electricity demand and to schedule sufficient generation to meet the forecast demand with sufficient

margin to cover contingencies (such as inadequate wind, generation outages and transmission outages)?

7. Given the critical and growing importance of reliable electricity in modern life, what level of risk of supply interruption should be tolerated? What security margins should apply when the System Operator is scheduling power system reserves?
8. Looking ahead, are the current arrangements capable of delivering appropriate levels of security and reliability?

#### *Ensuring adequate standby generation or other resources to reduce risk*

9. Given the lead times necessary for some generation resources (and demand management resources) to be ready to generate when required (many hours in some cases), what mechanisms are warranted to enable or ensure those resources are offered or made available to be brought into service when needed?
10. What mechanisms are necessary to ensure that emergency load curtailment results in minimum disruption to consumers, for example controlling hot water load or other low value demand before other load is interrupted?

#### *Roles and accountabilities*

11. Is there adequate clarity of roles, responsibilities and assurance mechanisms for the policies, procedures and tools that collectively deliver electricity system operation and emergency management?
12. Are there appropriate arrangements for monitoring, and periodically reviewing, the adequacy and effectiveness of electricity system emergency management plans and policies?

### **Interdependencies**

The investigation may draw upon any relevant information and insights from other reviews or investigations underway or completed, including:

- Transpower's internal reviews of its performance and its supporting tools, processes and communication practices as System Operator, and
- The Electricity Authority's review, under section 16 of the Electricity Industry Act, of how the electricity system performed on 9 August 2021.

Transpower and the Electricity Authority have agreed to provide information and support for the purposes of this investigation.

### **Out of scope**

For clarity the following matters are out of scope:

- Determining any breach of the Code or other laws
- Addressing methods to reduce electricity demand or to encourage generation investment
- Considering ownership or institutional governance arrangements in the sector

### **Approach**

The investigation is expected to:

- Seek and consider information on relevant circumstances, events and actions leading up to, during and immediately following the 9 August event
- Take into account the perspectives of relevant parties
- Consider relevant reports and information, such as from Transpower and the Electricity Authority, including previous relevant reviews and reports.

### **Timeframe and deliverables**

The investigation is to commence on 19 August 2021 with a target date for conclusion of 6-10 weeks later.

A written report will be prepared incorporating all of the details required to satisfy the purpose of the review.

A draft report or summary of the findings will be shared with key parties including the Electricity Authority, Transpower and any other directly affected parties, to enable an opportunity to comment and provide input before the report is finalised.

### **Roles and responsibilities**

The sponsor of the investigation will be Chris Bunny, Deputy Secretary, Building, Resources and Markets, MBIE.

The investigation will be led by Pete Hodgson, with Erik Westergaard being the specialist technical advisor.

The investigators will keep the sponsor informed of progress and engage on the draft findings and recommendations.

MBIE will provide secretariat support.