

## Terms of reference

### **Electricity Authority Review of 9 August 2021 event under the Electricity Industry Act 2010**

The Authority is exercising its function under section 16(1)(g) of the Electricity Industry Act 2010 to undertake industry and market monitoring, and carry out and make publicly available reviews, studies and inquiries into any matter relating to the electricity industry.

The section 16(1)(g) review will be conducted in two phases:

- Phase 1: Immediate review – urgent assurance
  - This will include a review around the system operator’s demand allocation tool – aiming for the review to be completed by 23 August 2021.
  - This will also include a review around the system operator’s communications processes and associated protocols – aiming for the review to be completed by 30 August 2021.
  
- Phase 2: Wider review
  - The scope for this wider review will be determined at a later stage.

### **Background to the review**

On the evening of Monday 9 August 2021, a significant weather event caused national demand to reach a record high. On 9 August at 6.40am, Transpower as the system operator notified market participants that the forecast market schedules were signalling the possibility of a shortage of supply that evening, should conditions worsen. By 1pm, the conditions had worsened, and the system operator notified market participants that further generation offers were required to avert the risk of demand management. By 5pm, conditions had deteriorated further, and a Grid Emergency Notice (GEN) was sent notifying market participants that there were insufficient offers to cover both energy and reserve requirements and that reserve dispatch would be reduced to provide energy supply. At 6.48pm, all distributors were *requested* to reduce demand by 1% and notified that a Demand Allocation Notice (DAN) would follow. The DAN was issued at 7.09pm but contained a number of errors regarding the maximum demand limits requested of distributors.

The errors in the DAN resulted in a number of distributors, who had already disconnected load in response to the 6.48pm request, to manage their load further. Whereas the initial response would have had little impact on consumers (ripple control hot water and street lighting disconnection being common mechanisms), the subsequent response was enacted through disconnecting consumers completely. As a result, four distribution companies disconnected approximately 35,000 consumers for up to two hours on the coldest night of the year to date across the country. With demand management being greater than required, generation was no longer dispatched as it was not required to meet the demand. This has led to the situation where consumers were without power whilst generation capacity was available.

At 8.20pm the original GEN was revised to allow distributors to return up to 5% of their current load levels. The Grid Emergency was formally ended at 9.01pm.

The Minister and Authority have concerns about the level of formal communication by Transpower leading up to the event on 9 August.

The Ministry of Business, Innovation and Employment (MBIE) has been instructed by the Minister to conduct a review into the 9 August event. The Authority intends to co-ordinate with and support the broader review led by MBIE. It is intended that the review undertaken by the Authority of the immediate circumstances surrounding the event will feed into the review led by MBIE.

The Authority expects full co-operation from Transpower in this review.

## **Intent of the review**

### Phase 1: Urgent assurance

The Authority seeks to assure the Minister and consumers that any systemic and process issues that led to the excessive demand response are urgently corrected.

The Authority will achieve this through:

- A review around the system operator's demand allocation tool
  - The Authority will consider whether it is fit-for-purpose
  - The Authority will confirm that any fixes or updates to the tool applied by the system operator have been tested and the operation of the tool has been verified
  - The Authority will review the system operator's processes regarding the use of the demand allocation tool and communication of its results through DAN and otherwise
- A review of the system operator communication processes and associated protocols regarding Grid Emergencies and potential loss of supply situations, this will include the following:
  - Communications to generators, distributors and direct connect consumers
  - Communications and notices to both the Authority and the Minister of Energy and Resources

## **Scope of the immediate review (Phase 1)**

The Authority will conduct this immediate review by:

- Reviewing the demand allocation tool and how it is used by the system operator, in light of its use in the event on 9 August:
  - What is the nature of the tool (ie. market system integrated, standalone, platform?)
  - How is the tool tested and verified?
    - How regularly does this testing occur?
    - When was the tool last tested/validated?
  - What processes are in place regarding its use?
    - Were these processes followed?
    - Were these processes written down?
      - If so were the written processes referred to in the event?
  - What changes have been, or are likely to be, made to the tool following 9 August and how will it be tested/verified?

- Has the tool been used in simulations, and if so, what insights arise from its use in such simulations?
- What staff training was provided?
  - How was competence in using the tool validated for those staff authorised to use it?
- Reviewing the communications processes and associated protocols, in light of communication around the event of 9 August:
  - Are communication protocols to industry participants robust?
  - Were communication protocols adhered to during the event in the system operations control centre?
  - What protocols do the system operator have for communicating significant, or potentially significant, events to the Minister and Authority
  - What feedback does the industry have for Transpower?

## Resources

- The overall review effort will be led by Sarah Gillies, GM Legal, Monitoring and Compliance.
- The immediate review will be led by Chris Otton supported by Liesle Venter-Wagner and Mike Underhill.
- Support will be provided by the wider Communications and Legal teams.
- Resourcing of the subsequent broader Phase 2 review is to be determined
- We expect full co-operation from Transpower

## Output

The Authority will prepare a report for the Board and Minister. The Authority intends to make publicly available the review. The Authority will seek assurance from Transpower that any corrective actions will be undertaken as a matter of urgency.

## Phase 2 of the Review

The scope of a wider review of the events of 9 August is being considered, but will follow the immediate focus which is Phase 1 of the Review.

It is likely to include the following:

- consider all roles (system operator, electricity distribution services, generators, retailers, direct connect consumers)
- time sequence leading up to the event
- how the event was handled including:
  - generation and whether all generators that could run were running
  - the response by electricity distribution services
  - the treatment of medically dependent consumers
  - the response by direct connect consumers
  - communications between all parties and with consumers during the event
  - the system operator's performance
  - management of reserves
  - price signals and whether these reflected underlying conditions
- consumer focus