

25 March 2022

Hon Megan Woods  
Minister of Energy and Resources  
Private Bag 18041  
Parliament Buildings  
Wellington 6160

Dear Minister

**RE: REPORT BACK ON PROGRESS AGAINST RECOMMENDATIONS FROM  
MINISTERIAL INVESTIGATION INTO ELECTRICITY SUPPLY INTERRUPTIONS OF 9  
AUGUST 2021**

This letter outlines the Electricity Authority's (the Authority) first quarterly report back in relation to the Ministerial investigation into the electricity supply interruptions of 9 August 2021.

On 25 November 2021, you wrote to advise of the release of the Ministry of Business, Innovation and Employment's (MBIE) final report on the investigation into electricity supply interruptions of 9 August 2021 (the Ministerial investigation). You outlined your expectation of a quarterly progress update, with the first progress report by 25 March 2022.

I wrote to you in December 2021 acknowledging your letter and subsequently provided you with the Authority's interim response to the report on 28 January 2022 in advance of our first quarterly update.

**The main causes of the 9 August 2021 event are being addressed before winter 2022**

We have made good progress on all recommendations from the Ministerial investigation and other reviews and investigations into the 9 August event.

We have focused on progressing immediately actionable recommendations so that the system operator and wider industry are much better placed to manage future demand management events and minimise the impact on consumers ahead of winter 2022, when pressure on the system is likely to be greater as a result of the potential for a dry year and the higher levels of demand over winter.

## **Any policy changes need to consider the work underway to support the transition to 100% renewables**

The Authority has a critical role to play in the transition to 100% renewables, by ensuring a fine balance between supply and demand whilst providing a robust regulatory framework to ensure the right investment occurs at the right time, in the right places in our system. We are focused on making sure that New Zealand can make the transition without compromising our future security and reliability. The Authority has several critical workstreams already underway to consider the changes required to make this transition.

Many of these workstreams are considering the same underlying problems that have been raised following the 9 August 2021 event. A future-focused approach with long term solutions are needed to ensure that New Zealand can reach this low carbon future.

## **MBIE and the Authority are aligned in taking a well thought out policy approach to market changes while acting promptly to ensure potential supply shortages are effectively managed**

We met with MBIE to clarify some of the policy focused recommendations and to test our approach and likely timeframes for progressing these in a phased manner.

Both the Authority and MBIE recognise the need to consider the wider implications of any targeted interventions and initiatives already underway to support New Zealand's transition to 100% renewables. We have asked MBIE to clarify its position on the approach the Authority is taking to the policy recommendations from the Ministerial report.

## **We are making progress across all the themes in the Ministerial investigation**

We are making progress in addressing all the themes in the Ministerial investigation. A summary of the progress to date is below and a detailed list of progress against each recommendation is attached to this letter as **Appendix 1**. The recommendations in the appendix are ordered by priority (to progress before winter 2022) and include recommendations where we have a role in overseeing the system operator.

## **Performance of the system operator (section 3 of the Ministerial Investigation)**

The Authority is actively managing the system operator and applying an assurance lens to the system operator's actions so the Minister, industry and consumers can have confidence in the actions taken.

The Authority discussed with the system operator after 9 August that "equitably" is not "equally" and to consider that disconnecting all discretionary load ahead of customer disconnection may be more equitable than disconnecting customers via a 1% notice when some discretionary load is still available. Transpower has accepted that approach. The Authority is considering further, formal, guidance. It is important to note that the equity rule is being considered in the Authority's compliance investigation into alleged breaches of the Electricity Industry Participation Code by the system operator in relation to 9 August.

We have commissioned and are currently reviewing a draft report on international best practice for management of similar contractual and governance arrangements.

In addition to the recommendations in the Ministerial Investigation, the Authority made a series of recommendations in phase 1 of its review under section 16 of the Electricity Industry Act 2010. That review identified immediate actions for the system operator, which are set out in **Appendix 2**.

#### **Wholesale market and supply side (section 4 of the Ministerial Investigation)**

We have a targeted project underway to consider options to improve the accuracy of intermittent generators' forecasts (persistence forecasting).

#### **Demand response and demand side participation (section 5 of the Ministerial Investigation)**

The system operator now has access to improved information on discretionary load available to manage potential supply shortages leading into winter 2022.

From February 2023, Real Time Pricing (RTP) will provide an in-market solution allow both large scale participants and demand aggregators to participate in the spot market and provide demand side response.

#### **Information and communications (section 6 of the Ministerial Investigation)**

We are encouraging Transpower to work with the wider industry and consumer groups to develop industry-led standards for information provision in a grid emergency. Once these improvements have been implemented, we will work with stakeholders to identify and address any remaining gaps in communications.

We will remind retailers of their obligations in relation to medically dependent consumers, in particular that retailers are aware of the importance of their medically dependent customers having a personalised emergency response plan.

We have a programme of work to address the findings from other reviews and reports into the 9 August event. Progress against these recommendations can be found in appendices 2-4.

#### **Looking ahead (section 7 of the Ministerial Investigation)**

We clarified this recommendation with MBIE and understand its focus on setting standards related to demand side opportunities such as electric vehicle charging and connection of distributed generation.

We are considering the need for demand side standards including EV charging, distributed generation and distributed energy resources as part of our review of the distribution regulatory settings work. We will be consulting on an issues paper looking at these settings mid-2022.

## **Our comments on progress by the system operator to date**

The Authority has undertaken rigorous assurance of the system operator's actions to address the recommendations through regular project meetings and assessing information provided by the system operator. The Authority is comfortable that these actions are being progressed and will continue to monitor the system operator's progress.

## **The Authority is committed to completing its other investigations and reviews into the 9 August event**

In addition to addressing the recommendations raised in the Ministerial Investigation, we are committed to completing the Authority's other investigations and reviews into the 9 August event. These other investigations and reviews will provide important insights and lessons to learn in addition to those already covered by other reviews.

The Authority's other workstreams include:

- investigating the claimed undesirable trading situation (UTS) which takes into account the roles of Genesis Energy, Contact Energy and the system operator;
- alleged breaches of the Code by the system operator and Genesis Energy (noting an alleged breach by Contact Energy has already been closed); and
- the wider (phase 2) review under the Electricity Industry Act 2010, which looks at the lessons that can be learnt from all reviews and investigations into the event for the Authority, lines companies, the system operator, generators, retailers, and direct connect consumers. This work is expected to be completed in April 2022.

## **Next steps**

We will provide you with the next quarterly report by 25 June 2022 to keep you informed on how the remaining recommendations are progressing.

As always, we are available to discuss any of the matters raised in this letter with you at your convenience.

Yours sincerely



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# Quarterly Progress Update

## 9<sup>th</sup> August Recommendations

### Appendix 1: Progress on Ministerial Investigation recommendations

#### Recommendations that are the responsibility of the Electricity Authority

##### 1. Immediate actions – those actions that can be implemented before Winter 2022

Number and theme	Recommendation for action	Timeframes	Authority Action/Comment
<b>MBIE1</b> <b>Performance of the system and system operator (section 3)</b>	We recommend that the EA amend the Code to ensure the equity rule is deployed only when ripple control and any other type of discretionary load available has been exhausted.	Verbal clarification complete.  Formal clarification to follow investigations into alleged breaches of the Code.	The Authority discussed its position with MBIE on 15 February, and outlined that it considers equity means the absence of avoidable or remediable differences among groups of people. In the context of the NZ power system this means that consumers should continue to have the same level of access to supply regardless of their differences.  Based on this interpretation, the Authority outlined to MBIE that it does not consider a Code change to be necessary to implement this recommendation.  The Authority considers it verbally clarified the interpretation with the system operator in November 2021. In any event, the equity clause is one of the provisions of the Code being considered in the investigation into alleged breaches of the Code by the system operator. Once that investigation is concluded it would be appropriate for the Authority to provide formal guidance to the system operator.  On 18 March the system operator submitted a Code change proposal to the Authority regarding the equity rule intended to clarify it would be applied only on a best endeavours basis. The Authority will consider the request through the normal Code Amendment Request process.
<b>MBIE2</b> <b>Performance of the system and system operator (section 3)</b>	We recommend that the EA scrutinise its relationship with Transpower, perhaps with international input, with a view to holding Transpower more firmly to the rules and contracts that bind it. We believe the EA should report its progress on this recommendation to the Minister of Energy and Resources after six months. We invite the EA to engage with other regulators in New Zealand which successfully both support and regulate their industries.	Draft report on international input received. Final report expected end of March 2022.  Ongoing implementation TBA based on contents of final report.	The Authority commissioned and has received a draft independent report on international best practice in this area. Once the report is finalised, which is expected by the end of March 2022, the Authority will build on the findings of the independent report, including prioritising implementation action.  The Authority is organising a workshop with MPI to understand how it regulates sectors within the primary industries, which we expect to occur in April 2022. The Authority will develop a work programme of key activities following the MPI workshop. The Authority considers that standing of MPI's regulatory stewardship model, and performance in developing and regulating primary industries is well recognised in the Public Sector and should provide insights to how we evolve our own regulatory model.
<b>MBIE6</b> <b>Demand response and demand side participation (section 5)</b>	We recommend that the Code must be amended so that the SO has real time, and acceptably accurate, awareness of discretionary load available from each EDB by winter 2022. We commend the Upper South Island load management programme as a starting point.	Voluntary changes in place already.	The system operator has implemented a voluntary mechanism that provides awareness of the discretionary load available to enable it to manage the grid during an emergency. This is a measurable improvement on the level of information available on 9 August 2021 to ensure that in the event of a grid emergency consumers are only disconnected once discretionary load has been exhausted.  It is not uncommon for regulatory measures to start with voluntary arrangements and the Authority has other voluntary regulatory arrangements in place. Here, in relation to discretionary load, there are considerations that need to be taken into account in terms of a shift from voluntary to mandatory arrangements.  As discussed with MBIE, the Authority notes that absolute accuracy (and real time information) is near impossible to achieve and likely extremely costly (and that cost imposed on consumers) to the extent that this outweighs any marginal benefits to consumers. The Authority is also mindful of the impacts of potentially extending the role of Transpower which would require very careful policy design. Whether these arrangements need to be codified and what frequency and level of accuracy is required for the information requires careful consideration. In addition, all Code changes require the Authority to apply the test in the Electricity Industry Act and follow specified processes, including consultation. To clarify, the Authority is not currently pursuing a Code change process.  The Authority discussed this recommendation with MBIE on 15 February and sought clarification. The Authority advised MBIE it considers there is an acceptable solution in place at the moment. We are engaging further with MBIE to see a formal agency response
<b>MBIE17</b> <b>Information and communications (section 6)</b>	Noting that these arrangements may not be materially different from those applying in the above recommendation, we suggest the EA and industry also consider an education campaign to ensure medically dependent consumers are aware of the importance of having a personalised emergency response plan.	End of May 2022	The Authority will remind retailers of their obligations in relation to medically dependent consumers, in particular that retailers are aware of the importance of their medically dependent customers having a personalised emergency response plan.

##### 2. Longer term actions – those actions that are not able to be implemented before Winter 2022

Number and theme	Recommendation for action	Timeframes	Authority Action/Comment
<b>MBIE3</b> <b>Wholesale market and supply side (section 4)</b>	We recommend that the EA seek to disallow persistence forecasting and require all wind generators to use acceptably accurate ways to make their offers to the SO	Consultation expected post winter 2022	The Authority is assessing the accuracy of forecasting and focusing effort on the longer-term wind forecasting as an input into pricing schedules. The Authority discussed its position with MBIE on 15 February and MBIE has indicated it is comfortable with this approach.  The Authority is progressing this work and intends to consult on changes to improve the accuracy of forecasting in the second half of 2022.

<p><b>MBIE4</b></p> <p><b>Wholesale market and supply side (section 4)</b></p>	<p>We recommend that the EA explore afresh the market for cap products.</p>	<p>Consultation on issues completed.</p> <p>Consultation on options expected post winter 2022.</p>	<p>Cap products already exist and are currently traded as Over the Counter products. Work on this issue by MDAG has identified that there has been not much take-up of these products, mainly because of the gap in views between sellers and buyers on what is a reasonable premium for these products.</p> <p>There are currently no NZ electricity. cap products on the ASX. These were previously identified as a potential new product by the Authority (~2016) and we worked with the ASX to get them listed. However, their introduction was initially stalled for several years due to regulatory issues in Australia (now resolved) and then ASX did not take this further due to no further interest from market participants.</p> <p>ASX has recently discussed with us (2022) that they are considering the introduction of a monthly option product. This product is likely to be seen as a close substitute for a cap-type contract. We have encouraged ASX to develop new products and don't see any barriers to this (or other products) being introduced by ASX if there is a market for them.</p> <p>The Authority briefed MBIE on the role of the Authority's Market Design Advisory Group (MDAG) in exploring this as part of its workstream on price discovery under 100% renewables. This policy work has identified that financial products with characteristics similar to caps are likely to be needed to a much greater extent under 100% renewables to support investment in supply and manage risks of more volatile prices. MDAG released an issues paper on key issues within the current wholesale electricity market design on 2 February 2022. MDAG consider these need to be explored to enable a shift to 100% renewable electricity supply within the market. This consultation closed on 16 March.</p> <p>The Authority expects an options paper for the 100% renewable energy policy work to be ready in the next reporting period. This options paper will be used to engage Industry in the problem definition and to present relevant options. Consultation will help move from options to a preferred solution.</p> <p>To clarify, the EA confirms that the scope of the existing MDAG policy process satisfies the request to explore afresh market products, and that cap products are not being pursued in isolation. We have subsequently asked MBIE to confirm their agency position on any residual concerns about the scope of our exploratory work.</p>
<p><b>MBIE5</b></p> <p><b>Demand response and demand side participation (section 5)</b></p>	<p>We recommend that the EA demand major users are able to offer an acceptable demand side response in the event of a short-term generation shortage and regulate if commercial arrangements are not reached in a short period.</p>	<p>Consultation on options expected post winter 2022.</p> <p>Market solution available from February 2023.</p>	<p>There is an opportunity for demand response under Real Time Pricing, which remains on track to go live on 1 November 2022 and for a market solution for bidding demand response to be available from February 2023. This will enable the visibility of flexible DR and DER and, in conjunction with more actionable real time prices, encourage the implementation of new demand flexibility resources that wouldn't otherwise be able to reliably realise their value. To the extent that these resources have not been offered in previously, it can help deal with 9 August type situations.</p> <p>In addition, the Authority's market design advisory group issues paper on key issues within the current wholesale electricity market design that was released on 2 February 2022 covers this issue. MDAG consider these options need to be explored to enable a shift to 100% renewable electricity supply within the market. This consultation closed on 16 March.</p> <p>The Authority expects an options paper for the 100% renewable energy policy work to be ready in the next reporting period. This options paper will be used to engage Industry in the problem definition and to present relevant options. Consultation will help move from options to a preferred solution.</p> <p>The Authority updated MBIE on this at the 15 February meeting</p>
<p><b>MBIE7</b></p> <p><b>Demand response and demand side participation (section 5)</b></p>	<p>We recommend that the EA and the SO design and implement a new product to manage multi-hour shortfalls.</p>	<p>Consultation on options expected post winter 2022.</p>	<p>The Authority discussed this recommendation with MBIE on 15 February. MBIE noted the Authority's role in leading this work, which is part of MDAG's 100% renewable energy policy work.</p> <p>The possibility of implementing a non-code solution has been raised by MBIE (such as the SO contracting for participants to provide services in the event of multi-hour shortfalls). The Authority notes that this would effectively involve introducing a new, unregulated ancillary service. We have concerns this option would create a new ancillary service which risks undermining market signals. We consider it would be preferable to use market price signals to provide the right incentives e.g. interruptible load offered for instantaneous last reserves.</p> <p>MDAG released an issues paper on key issues within the current wholesale electricity market design on 2 February 2022. MDAG consider these need to be explored to enable a shift to 100% renewable electricity supply within the market. This consultation closed on 16 March.</p> <p>The Authority expects an options paper for the 100% renewable energy policy work to be ready in the next reporting period. This options paper will be used to engage Industry in the problem definition and to present relevant options. Consultation will help move from options to a preferred solution.</p> <p>To clarify, the EA confirms that the scope of the existing MDAG policy process covers demand-side response/participation and the management of system shortfalls. At this stage, design work on new products to manage multi-hour shortfalls are not being pursued separate to this work. We have subsequently asked MBIE to confirm their agency position on any residual concerns about our approach.</p>

<p><b>MBIE8</b></p> <p><b>Demand response and demand side participation (section 5)</b></p>	<p>We recommend that a new ancillary service be given serious consideration as the first step in the life cycle of this new product.</p>	<p>Consultation on options expected post winter 2022.</p>	<p>As per recommendation MBIE7</p> <p>There have been recent changes to allow grid scale batteries to participate in the reserves market which will support improved management of shortfalls. There is current work underway relating to Future Security and Reliability, and the impending introduction of the dispatch notification product, which should be implemented before considering further ancillary services. The dispatch notification product will incorporate DR and DER into the spot market, providing a co-optimised, whole of market approach to the dispatch of flexibility services. Introducing a paid ancillary service that is not integrated to the market could lead to inefficient outcomes that lock in resources that would be better employed directly competing with generation offers in the spot market</p> <p>This approach is also consistent with your direction in relation to Electricity Price Review recommendation G2 and this work is not considering resource adequacy until Phase 1 of the NZ Battery project is complete.</p> <p>Further, the MDAG is providing the Authority with advice in relation to market design work to understand how the wholesale electricity market, including spot and hedge markets, and investments, would work under a 100 percent renewable electricity system, and what changes may be needed.</p> <p>The Authority updated MBIE on progress of MDAG's work on 15 February. MDAG released an issues paper on key issues within the current wholesale electricity market design on 2 February 2022. The Authority expects an options paper for the 100% renewable energy policy work to be ready in the next reporting period. This options paper will be used to engage industry in the problem definition and to present relevant options. Consultation will help move from options to a preferred solution.</p>
<p><b>MBIE16</b></p> <p><b>Information and communications (section 6)</b></p>	<p>We recommend the EA work with the SO, EDBs, retailers and consumer groups to establish best practice arrangements for information provision and communication with medically dependent consumers in a grid emergency and encode such arrangements where appropriate.</p>	<p>Post winter 2022 (specific timing dependant on timing and recommendations MBIE 14 and 15)</p>	<p>The Authority considers this to be a subset of recommendation 15. The Authority will assess the need for this work once the protocols are in place relating to recommendations 14 and 15 (see below). Once the protocols are in place the Authority will consider if arrangements need to be encoded.</p>
<p><b>MBIE18</b></p> <p><b>Looking ahead (section 7)</b></p>	<p>MBIE and the EA should demonstrate leadership in their respective roles in standard setting where it is in the public interest to harness emerging demand side opportunities.</p>	<p>Ongoing as appropriate</p>	<p>The Authority clarified with MBIE on 15 February that this recommendation relates to setting standards and is also a general comment/context designed to add priority to work that is already underway.</p> <p>MBIE indicated the focus is on setting standards, such as for demand response and EV charging and picks up on comments from stakeholders on a lack of clarity who is leading what in terms of standards, and references to the pace of work.</p> <p>The Authority is are looking at identifying issues with standards for DER/EV/DG in its distribution network regulatory settings work and will be consulting on an issues paper mid-2022</p>

## Recommendations involving the Electricity Authority and Transpower

### 1. Immediate actions – those actions that can be implemented before Winter 2022

Number and theme	Recommendation for action	Timeframes	Transpower Action/Comment	Authority Action/Comment
<p><b>MBIE9</b></p> <p><b>Information and communications (section 6)</b></p>	<p>We recommend that the EA and Transpower address the findings and recommendations in the EA's Immediate Assurance Review report, and reports by PBA and Thomson Lewis (both commissioned by Transpower) as a matter of priority, with each immediately initiating a programme of work, co-ordinating where appropriate.</p>	<p>Ongoing</p>	<p>All immediate actions have been completed. Targeting completion of the remainder of Transpower actions by July 2022.</p>	<p>Both the Authority and Transpower have work programmes in place to address the findings and recommendations across all reports carried out. We coordinate across work programmes regularly through sharing of project documentation, aligned project management documentation and regular joint governance meetings.</p>
<p><b>MBIE10</b></p> <p><b>Information and communications (section 6)</b></p>	<p>We recommend that the EA and Transpower should each be asked to provide quarterly updates to the Minister setting out progress until the systems are in place. The EA should undertake subsequent compliance monitoring.</p>	<p>Ongoing</p>	<p>This document forms the first quarterly update to the Minister, alongside Authority updates.</p>	<p>The Authority is coordinating quarterly reporting. A regular process is in place for the Authority to formally have assurance over Transpower progress on relevant recommendations (i.e. on the basis of trust, but verify).</p> <p>The Authority will undertake regular compliance monitoring as part of its role in regulating and managing the contract with the system operator.</p>
<p><b>MBIE11</b></p> <p><b>Information and communications (section 6)</b></p>	<p>Transpower should ensure that it henceforth reliably and promptly provide the 24/7 communications needs of the SO in generation emergencies.</p>	<p>30/04/2022</p>	<p>Immediate changes were made to improve the communication of generation emergencies. See the Authority's recommendations from its phase one review: 1. Completed actions EA Phase 1 (3C)</p>	<p>The Authority has undertaken rigorous assurance of the system operator's actions through regular project meetings and assessing information provided by the system operator. The Authority is comfortable that these actions are being progressed. The Authority will continue to monitor the system operator's progress.</p>

Number and theme	Recommendation for action	Timeframes	Transpower Action/Comment	Authority Action/Comment
			Ongoing improvements to communications are part of the group of communications recommendations the SO investigation Evaluation of alternative NCC communications options project will address. See the Authority's recommendations from its phase one review: 2. in progress: actions EA Phase 1 (3F)	
<b>MBIE12</b> <b>Information and communications (section 6)</b>	Transpower should design and undertake pan-industry contingency exercises, monitored by the EA, sufficient to test processes actions and communications, and to clarify responsibilities in a generation emergency. Transpower should consider engaging the National Emergency Management Agency in designing communications policies for use in an emergency	26/05/2022	A scenario for the industry exercise has been developed by the system operator and a communications plan signed off. Industry communications around the exercise will commence in March. The exercise will take place on 26 May 2022. The timing will ensure the exercise is well-planned and executed (including an internal dry run in April). It will also provide enough time respond to any lessons learned before winter commences in earnest.	The Authority has undertaken rigorous assurance of the system operator's actions through regular project meetings and assessing information provided by the system operator. The Authority is comfortable that these actions are being progressed. The Authority will continue to monitor the system operator's progress.  The Authority is participating in the pan-industry exercise on 26 May.
<b>MBIE13</b> <b>Information and communications (section 6)</b>	We endorse the recommendation of PBA Consulting that the SO should improve its process for providing the public with timely and simple explanations for system-wide incidents, particularly where consumers have been disconnected.	30/04/2022	Immediate changes were made to improve the communication of generation emergencies. See the Authority's recommendations from its phase one review: 1. Completed actions: EA Phase 1 (3C)  Ongoing improvements to communications are part of the group of communications recommendations the SO investigation Evaluation of alternative NCC communications options project will address: See the Authority's recommendations from its phase one review: 2. In progress actions EA Phase 1 (3F)	The Authority has undertaken rigorous assurance of the system operator's actions through regular project meetings and assessing information provided by the system operator. The Authority is comfortable that these actions are being progressed. The Authority will continue to monitor the system operator's progress.
<b>MBIE14</b> <b>Information and communications (section 6)</b>	However, we add that EDBs will usually hold relevant information that the SO does not, and are therefore also obliged to establish communication protocols, by multiple means. Both the SO and EDBs should be proactively in touch with all retailers and should have established and agreed systems to achieve that.	30/06/2022	Part of the group of communications recommendations the SO investigation capital programme project (Evaluation of alternative NCC communications options) will address. See the Authority's recommendations from its phase one review: 2. In progress: actions EA Phase 1 (3F)	The Authority considers industry are best placed to lead this as they understand what is required and are best placed to come up with innovative and workable solutions. The Authority notes that this recommendation needs to cut across both SO to distributor communications and distributor to retailer communications.  The Authority will monitor and support SO, distributors and retailers in coming up with an industry led solution.
<b>MBIE15</b> <b>Information and communications (section 6)</b>	We recommend the EA work with the SO, EDBs, retailers and consumer groups to establish best practice arrangements for information provision and communication in a grid emergency and encode such arrangements where appropriate.	30/06/2022		The Authority considers industry are best placed to lead this as they understand what is required and are best placed to come up with innovative and workable solutions. The Authority is monitoring progress of this recommendation. While some progress has been made, further action is under way.



## Appendix 2: Progress on recommendations for Transpower from Phase 1 of the Authority’s review under section 16 of the EI Act

### 1. Completed actions

Source	Recommendation for action	Timeframes	Authority Assurance	Transpower Action/Comment
EA Phase 1	1B For island-wide and national demand management, queries regarding notices must be directed to NCC via NGOC.	30/11/2021	Complete	Notices now instruct queries to go to the NCC. This has been reinforced with the NGOC and will be included in NGOC and NCC training.
EA Phase 1	1C Clear and consistent lines of communication must be made known to recipients and where those communication lines differ – i.e., NCC vs NGOC the messaging between them needs to remain consistent.	30/11/2021	Complete	Clarity on the roles played by the NCC and NGOC was introduced immediately following Aug 9. Further improvements to be progressively implemented and practiced in team training and industry exercise.
EA Phase 1	1E Review operational tools for accuracy. The system operator must review grid exit point to distributor modelling in their operational tools to ensure it is current.	30/09/2021	Complete	Immediate action to correct inaccuracies is complete.
		17/12/2021		Root cause investigation completed, and an implementation plan created to prevent issues from recurring; plan will be delivered as BAU and will be complete by 31/03/22.
EA Phase 1	3C Review the contents of the formal notices. Where practicable, the system operator must ensure formal notices include specific actions to take, the reason, the timeframes when these actions must be taken and confirmation of when the action taken is required – supported by timely feedback from the system operator on the effectiveness of those actions.	30/11/2021	In progress	Updated CAN/WRN/GEN notice templates were introduced before 30/11/2020. Procedure including use of notice template will be practised internally (team learning events) and externally (industry exercise) in 2022. Changes introduced to industry participants at system operator industry sessions in October/November 2021.
EA Phase 1	3D Where practicable, ensure earlier formal notices include specific actions to take, the timeframes when these actions must be taken and if there is a requirement to acknowledge the action has been taken, e.g., a) Immediately update demand bids for 18.00-20.00 to reflect expected offtake and confirm when the action is taken (b) Reserve dispatch will be reduced to release generation volume from 18.00 (c) System operator requires all controlled and discretionary load to be managed on a national basis and confirm when the action is taken (d) Direct connect consumers and distributors must prepare for demand management call from 18.00 onwards (e) Current forecast energy/reserve shortfall is XXXMW.	30/11/2021	In progress	
EA Phase 1	3E The language used in the notices must be consistent and clear on the consequences to affected participants of an insufficient response.	30/11/2021	Complete	
EA Phase 1	3A The system operator must improve their access to information on general demand management resource availability. The system operator will establish baseline information on the general demand management resources available within the system, and update this on a regular basis.	30/11/2021	Complete	Discretionary load details were received from all distributors. This data was compiled in a spreadsheet and will be manually managed pending a decision on any different approach for the longer term.
EA Phase 1	3B In support of potential grid emergency responses, the system operator will establish processes capable of timely verification of the actual demand management resources available to the system operator, to the distributors, and to direct connect consumers.	30/11/2021	Complete	Short-term actions have been completed. Manage demand procedure (PR-DP-251) now includes instructions on how discretionary load will be managed during a system event - largely by real-time conversations with distributors and direct connect consumers. This procedure has been published. There is a longer-term action on how to systemise controllable load that is on hold subject to the direction of the Authority.
EA Phase 1	4B In the interim, where practicable, formal notices published using the existing email delivery approach which require timely recipient action should be followed up with phone calls. This communication would confirm the recipient’s understanding of the issue being addressed and the actions required of them.	30/11/2021	In progress	Event management process has been reviewed and follow up communications via phone are incorporated (where practicable). This is also incorporated within NCC/NGOC training on the process. Aligns with EA Phase 1 (1B, 1C & 1D).
EA Phase 1	4C To support the current email-based notification, the system operator will put in place an assurance system to maintain up to date contact lists for key operational staff (and back up contacts) across distributors, direct connect consumers, generators and any other parties that could be required to respond to an emergency notice from the system operator.	30/11/2021	In progress	All industry participants have responded with confirmed contact details and distribution lists are updated.
EA Phase 1	5A Assurance system for decision support tools relied upon in medium and large-scale events. The system operator will put in place an assurance system that identifies the current state of the suite of decision support tools that are relied upon to respond to medium and large-scale events. The purpose is to ensure that the stock of tools is regularly maintained and adjusted to reflect material changes in networks.	30/11/2021	Complete	Evidence of assurance system provided to Authority and assurance report complete 23/11/21.
EA Phase 1	5C Review the technical and functional debt associated with other legacy tools and processes. The issues with the manual data updates for the LSR decision support tool and questions regarding the fitness of the LSR functional specification raise concerns of further technical and functional debt in the system operator tool suite. While the ongoing Market System Simplification project run by Transpower, is addressing technical debt in the core market systems, the system operator should also review: (a) any further manual data update processes for market system tools and their fitness for purpose, and (b) the fitness of the functional specification of any other legacy tools and processes, particularly those that are used infrequently or in a manner that does not use their full functionality.	30/11/2021	Complete	a. Review complete. Information Services and Technology (IST) confirmed there are no other regular manual update processes for the Market System tools. Additionally, a two-step verification process has been included to ensure the data in the LSR tool is verified as current. b. Assurance process outlined in EA Phase 1 (5A) includes the review of infrequently used tools and processes. Evidence of the assurance process was provided to EA on 23/11/21.

## 2. In progress actions

Source	Recommendation for action	Timeframes	Authority Assurance	Action/Comment
EA Phase 1	<p>1A</p> <p>The system operator to further electricity sector readiness to respond to critical demand management incidents. This will include (but not be limited to) an annual pan-industry exercise - (similar to critical gas contingency incident management exercises).</p> <p>No Business Continuity Plan style exercises with the system operator have ever been held for a supply shortage situation, this left participants unfamiliar with protocols and requirements. Protocols developed for a rolling outage situation lasting many hours do not appear to have the flexibility to manage a short term, short notice event</p> <p>The development of an annual exercise, involving the system operator, distributors, generators and retailers would allow operational and communication processes to be refined and responsibilities better defined. The first exercise will place emphasis on resolving the objectives of communications between the system operator and distributors and direct connect consumers.</p>	30/06/2022	In progress	A scenario for the 26 May 2022 industry exercise has been developed and a communications plan signed off. Industry communications around the exercise will commence in March. The timing will ensure the exercise is well-planned and executed (including an internal dry run in April). It will also provide enough time respond to any lessons learned before winter commences in earnest.
EA Phase 1	<p>1D</p> <p>Communicate any changes to actions required to all participants. Any update information regarding the demand management notices, i.e., instruction to some participants to hold action, must be immediately communicated to NGOC and all participants. This is critical in events where customer demand has been, or is intended to be, disconnected beyond discretionary load management.</p>	30/06/2022	In progress	A learning event has been developed and will be delivered in August 2022 (it is unable to be incorporated into NCC's next Feb-Apr training round as this is oversubscribed with essential RTP project work). The team will continue to revisit communications expectations verbally and will also review lessons learned from the industry exercise. Changes resulting from industry feedback and the 22 <sup>nd</sup> May exercise will be incorporated into the training.
EA Phase 1	<p>3F Update participants on any worsening of the situation.</p> <p>Ensure relevant market indicators of the event are clearly communicated to all affected parties. The language used in any notification should use a standardised form that has been developed in conjunction with the expected recipients. This will ensure a common understanding of the meaning of the notification and any actions required of the recipients. Changes in the shortfall or residual level published through the market schedules would not necessarily be seen or understood by distributor operations staff even though they are most likely to be impacted by a worsening situation.</p>	30/04/2022	In progress	<p>Reports from the Authority, PBA, Thompson Lewis and MBIE each contain several recommendations regarding communications between the system operator and industry, and with consumers. The recommendations overlap and to some extent duplicate each other. The system operator had a project in its Authority-approved 2022/2023 capital programme to review the communications it has with industry using the market system (Comms Project). The 9 August event showed the need to improve operational communications (including those by the system operator and also to the system operator, and with consumers). The system operator has extended the Comms Project to cover all the communications recommendations assigned to the system operator as much of the information required from participants is common for the original capital project and responding to many of the communications recommendations.</p> <p>The project has been established and funded within Transpower's Operations Division. Two project management/business analyst resources have been applied, supplemented by programme management oversight and use of operational SME resources (including senior managers) as required. What has been accomplished to date (21 March 2022) includes:</p> <ul style="list-style-type: none"> <li>completed development of matters and questions to be raised with industry in one-on-one discussions (a sample of participants across the industry)</li> <li>discussions with industry have commenced and will continue into April; assessment will follow and will include participation by the Authority</li> <li>web search completed to establish how retailers and EDBs provide outage information to consumers.</li> <li>inquiries made with National Emergency Management Agency (NEMA) Chorus and others regarding means of communicating with the public. Results, which include use of third-party applications such as Whisper, being considered further.</li> </ul> <p>Next steps through to 30 June:</p> <ul style="list-style-type: none"> <li>complete interviews</li> <li>consolidate feedback and consider options</li> <li>present recommendations for consideration by stakeholders after industry exercise (25 May)</li> <li>finalise proposed actions by 30 June.</li> </ul> <p>The project will deliver various elements at different times, which will become clearer when assessment of the inputs received from industry is completed. Essential to that assessment is input from the Authority and from Transpower's internal communications and customer teams. Identification of a Code change or changes may be an outcome. Any changes proposed for the market system will take an as yet undetermined time.</p> <p>The project will not directly address the matter of communication with medically dependent consumers; that is a matter for the Authority, EDBs and retailers. But event communications between</p>
EA Phase 1	<p>2A</p> <p>The system operator to work with stakeholders to develop an agreed and comprehensive communication approach to ensure prompt and consistent information.</p> <p>The system operator will work with distributors and retailers to resolve and formalise how priority information is to be promptly and consistently cascaded, and how affected customers and stakeholders will be notified for critical grid emergencies, unplanned outages, and material deterioration in network security.</p> <p>The system operator will put in place an agreed communication approach that will enable distributors and direct connect consumers to support a response to critical grid emergencies, in parallel to managing localised network support pressures.</p>	30/04/2022	In progress	
EA Phase 1	<p>2B</p> <p>Communication between distributors and retailers during an emergency situation, where customers are being disconnected, should be active rather than the passive forms used for planned outage communication. This must be balanced against the operational needs and workload of the distributors during the event. Distributors and retailers must work together to formalise contact points and communication methods. The agreed communication methods must:</p> <ol style="list-style-type: none"> <li>be between identified roles within each organisation with responsibility for ensuring the communication is sent, received and escalated appropriately, and</li> <li>not rely on individual communication, alternate contacts should have access to the notification process to mitigate the risk of staff absence impacting the communication process, and</li> <li>use standard language to provide formal notice of outages identifying the customers being disconnected.</li> </ol>	30/04/2022	In progress	

Source	Recommendation for action	Timeframes	Authority Assurance	Action/Comment
EA Phase 1	2C Given most distributors use webpages and/or phone apps to communicate local outages, an automated messaging extension to this system may be a suitable long-term solution.	30/04/2022	In progress	the system operator and industry are directly relevant to what is ultimately made available to all customers, including the medically dependent. This project responds to the following recommendations: <ul style="list-style-type: none"> <li>EA Phase 1: 2A, 2B, 2C,3F, 4A</li> <li>PBA recommendations: v</li> <li>Thompson Lewis recommendations: 2 (long-term action)</li> <li>MBIE recommendations: 14. and in part addresses 11, 12, 13 and 15 (as the project intends to deliver ongoing enhancements to the existing event communications process).</li> </ul>
EA Phase 1	4A Evaluate alternatives to email distribution for critical notices. The system operator will evaluate alternative communications systems that would better support notification to the operations focussed staff that are the target recipients (separate to the current email-based notification approach).	31/05/2022	In progress	See: EA Phase 1 (3F)
EA Phase 1	5B Specific to the LSR decision support tool, the system operator must determine if the LSR decision support tool continues to be fit for purpose.	30/04/2022	In progress	The long-term review of the LSR tool is underway. The review will be complete by the end of April 2022. Recommendations will inform potential Policy Statement or Code changes required to support the recommended outcomes. Probable outcome is to drop the LSR entirely for managing national or whole-of-island events which will require Policy Statement and Code changes which have been identified.
EA Phase 1	5D Redesign the LSR interface to simplify its operation. The user interface must be simple, clear and allow for intuitive assessment of the tool outputs to ensure they meet the needs of the power system. Process documentation should be clear and explicit about the expected operation of the tool and the checks necessary to validate the outputs of the tool.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)
EA Phase 1	5E Enhance training on the revised LSR decision support tool. Training on any reinstated LSR decision support tool must include validating tool outputs and corrective actions that can be taken.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)
EA Phase 1	5F Enhance post market system update testing to validate LSR decision support tool inputs and outputs. A process needs to be put in place to ensure that the data load is carried out at the required frequency and is tested and signed off as complete, correct and functional after each upload.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)
EA Phase 1	5G Testing scripts in the test automation suite need to be updated to not only check that the tool remains usable after any changes but also that the inputs it requires – i.e., historic data is appropriate and the output it generates is correct.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)
EA Phase 1	5H Ensure distributors and direct connect consumers are familiar with the aims and outputs of the new LSR tool. The system operator must ensure that distributors are made familiar with the function, and expected outputs, of any future LSR decision support tool and the actions expected of them in response to related notices.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)
EA Phase 1	5I The Authority will monitor the system operator’s review of the LSR decision support tool. The Authority must closely monitor the investigation, development and implementation of any fixes, or wholesale redesign, of the LSR decision support tool.	TBA	Pending 5B	Dependant on the outcome of EA Phase 1 (5B)

## Appendix 3 – PBA Consulting recommendations that involve the Authority

Source	Recommendation for action	Timeframes	Transpower Role	Action/Comment
PBA	<p>i. Slow Start-up Generators</p> <p>Market pricing signals did not provide sufficient commercial incentive to start-up inflexible generators in time to meet the evening peak demand. The Investigator recommends that the Electricity Authority consider the relative benefits of the following suggestions:</p> <ol style="list-style-type: none"> <li>1) If these conditions are expected to occur very infrequently, then make no changes to the existing market rules, and accept that demand management may be infrequently required when inflexible generators cannot start in time to make up for unexpected generation shortages.</li> <li>2) Encourage a more elastic demand response to high prices. There may be a future opportunity here for aggregators to offer control of household batteries and EV charging.</li> <li>3) Adapt the existing scarcity pricing mechanism to also cover scarcity of standby reserves. The scarcity pricing price floor and cap might improve revenue certainty for slow start expensive generators. This might be a relatively small change to the present market design.</li> <li>4) Add unit commitment to the existing energy and reserve markets to give slow start generators the revenue certainty needed to start and run when there is uncertainty in the ability of generation to meet peak demands. This would be a significant change to the market design.</li> <li>5) Create a market pricing signal for standby residual generation, additional to the existing pricing signals for energy and reserves (some might call this a short-term capacity market). This would be a significant change to the market design.</li> </ol>	As noted in the action column in relation to existing work.	No active role. Will support the Authority as appropriate	<p>EA staff have taken into account PBA's observations and the Electricity Authority is aware of PBA's recommendation to Transpower.</p> <p>PBA Consulting acknowledges the complexity of these proposals. 04, and 05 could not be ready for 2022 in any scenario.</p> <p>The issue of encouraging demand response at the household level (PB02) is being dealt with in the Authority's "Updating regulatory settings for distribution networks" workstream, in particular, implementation of IPAG's recommendations about flexibility services.</p> <p>MDAG is explicitly considering capacity market mechanisms (PB05).</p> <p>Modelling from MDAG indicates multi-hour shortfalls are likely to be less of a problem under 100% renewables due to a combination of a large number of batteries participating in the market and providing reserves as well as back-up supply from green (biofuel or green hydrogen) peakers and/or pump hydro sources. These types of plant do not suffer the same unit commitment problem currently experienced by slow start thermals.</p> <p>MDAG's focus has been on how to ensure back-up plant receives sufficient revenue to incentivise investment.</p> <p>Investment signals to support net new renewable generation and the transition away from thermal generation is being considered as part of the wider review into wholesale market competition. It would be premature to consider entirely new market mechanisms outside the work being done on market settings under 100% renewable generation undertaken by the Authority and MDAG.</p>
PBA	<p>ii. Demand Allocation Process</p> <p>This Grid Emergency was the first time the demand allocation process has been used after a nation-wide demand reduction. The demand allocation calculation in the Policy Statement is based on historical demands and does not appear to be appropriate for reallocating demand shed on a real time percentage basis, as occurred for this event. The Investigator recommends that:</p> <ol style="list-style-type: none"> <li>1) The Electricity Authority and System Operator review whether the demand allocation calculation defined in the Policy Statement, and implemented in the LSR tool, is fit for purpose for reallocating demand shed on a real time percentage basis.</li> </ol>	This work is dependent on Transpower's work to review the future of the LSR tool.	Finalise review of the future of the LSR tool.	<p>EA staff have taken into account PBA's observations and the Electricity Authority Board is aware of the company's recommendation to Transpower.</p> <p>In response to the Authority's phase 1 report, the system operator removed the LSR tool from service for island wide and national demand management events. Their process now requests the disconnection of all discretionary load ahead of any call for actual demand management that would require the disconnection of consumers. This will be called for as a percentage of actual demand at the time the call is made. The system operator has engaged with distributors and direct connect consumers to confirm that communication of these requests are clear and will elicit the required response. These changes, alongside the improvements in system operator visibility of discretionary load, are considered adequate to manage potential events in the near term. Development of a new LSR tool has been deferred until after winter 2022.</p>
PBA	<p>iv. Wind Generation Forecasts</p> <p>Offers of wind generation significantly over-estimated the amount of wind generation that could supply the evening peak demand. This was partly due to the use of a persistence model for forecasting wind offers 2 hours ahead. The Investigator recommends that the Electricity Authority reviews the way persistence is currently used for offering or forecasting intermittent generation and considers improving forecasting requirements for intermittent generation.</p>	As noted in relation to MBIE3 above	No active role. Will support the Authority as required	<p>See MBIE3.</p> <p>EA staff have taken into account PBA's observations and the Electricity Authority Board is aware of the company's recommendation to Transpower.</p> <p>The Authority is assessing the accuracy of forecasting and focusing effort on the longer-term wind forecasting as an input into pricing schedules. The Authority discussed its position with MBIE on 15 February and MBIE has indicated it is comfortable with this approach.</p> <p>The Authority is progressing this work and intends to consult on changes to improve the accuracy of forecasting in the second half of 2022.</p>

## Appendix 4 –recommendations from independent Transpower reports progress update

### 1. Completed actions

Source	Recommendation for action	Timeframes	Authority Role	Action/Comment
PBA	<p>iii. Controllable Load</p> <p>In principle, it is preferable to shed controllable load before disconnecting consumers. At present, the SO has very limited visibility of controllable load in the distribution networks. Better visibility will be needed to determine how much controllable load is available for shedding at any point in time.</p> <p>The Investigator recommends that the Electricity Authority, System Operator, and distributors work together to improve the utilization of controllable load by:</p> <ol style="list-style-type: none"> <li>1) Improving the System Operator’s visibility of controllable load.</li> <li>2) Formally agreeing that all relevant controllable load should be shed before disconnecting consumers. This includes shedding the controllable load of one distributor to avoid disconnecting consumers of another distributor.</li> <li>3) Establishing processes for how the System Operator requests distributors to manage shedding and restoration of controllable load.</li> <li>4) Considering the Upper South Island Load Manager (operated by Orion and visible to the System Operator) as a possible model for better utilization of controllable load.</li> </ol>	30/11/2021	Assurance in progress	As per EA Phase 1 3A,3B and 5B, controllable load baseline has now been received and procedure has been revised and approved.
TL	1. GM External Affairs and Corporate Communications Manager to continue work to agree a communications protocol with key government stakeholders to ensure clarity of events to be escalated and the information requirements when escalation occurs.	30/11/2021	Assurance in progress	Protocol developed and shared with key government stakeholders. Quarterly review cycle implemented as BAU.
TL	2. Transpower policy GL-DP-008 Guidelines for Internal Communication During an Event or Incident be amended to specify in a GEN being issued due to anticipated insufficient generation, the GM Operations and CEO are to be immediately notified by phone.	30/11/2021	Assurance in progress	Immediate updates to guidelines completed. There is a longer-term action related to this recommendation still in progress.
TL	3. That a System Operator policy focused on communications with external stakeholders be developed - could be based on the grid owner’s Event Response – Major System Event Policy.	30/11/2021	Assurance in progress	Major System Event Policy has been redeveloped to cover grid owner and system operator, as well as ensuring procedure is consistent with other procedures and will become a Controlled Document. See next action.
TL	4. Event Response – Major System Event policy be amended to make clear reference to both the Minister of Energy and Resources and shareholding Ministers being advised in a timely manner should a significant event occur to meet Transpower’s “no surprises” obligation	30/11/2021	Assurance in progress	The Major System Event Response document (not a policy) has been updated and referenced both the Grid Owner and System Operator.
TL	5. Amend the Process for Unplanned Outage Communications to specify in the case of significant events the CEO’s approval for key messages is to be sought and obtained and advice provided to Chair and Board in appropriate cases.	30/11/2021	Assurance in progress	Amendments to the process are complete.
TL	6. That in future security of supply situations, escalation both to the CEO/Chair and to key government stakeholders be undertaken via phone rather than text/email.	30/11/2021	Assurance in progress	Major System Event Policy, Communications protocol and Duty GM protocol all now clearly document how escalations are to be managed. Annual Industry exercises will embed changes.
TL	7. In the event that significant security of supply issues occur or can be reasonably foreseen to occur in the coming hours, the GM Operations and/or Duty GM should in a timely fashion pull together key management in an Incident Management Team (IMT).	30/11/2021	Assurance in progress	Major System Event Policy and Duty GM protocol have addressed how and when IMT’s will be established for system events.
TL	8. External Affairs and Corporate Communications management continue to build ongoing relationships with key officials and the relevant Private Secretaries in Ministers offices to understand their information needs and make it easier to make direct calls in times of need.	30/11/2021	Assurance in progress	Now an ongoing BAU activity.

### 2. In progress actions

Source	Recommendation for action	Timeframes	Authority Role	Action/Comment
PBA	<p>v. Public Communications During Incidents</p> <p>The System Operator has a much better overview of system-wide incidents, such as this Grid Emergency, than other market participants. However, disconnected consumers direct their first queries at distributors and retailers who may not have ready answers to the situation and likely reconnection times.</p> <p>The Investigator recommends that the System Operator improves the process for providing the public with timely and simple explanations for system-wide incidents, particularly where consumers have been disconnected.</p>	30/04/2022	Assurance (reviewing Transpower output)	Part of the communications project. See: EA Phase 1 (3F)
PBA	<p>vi. NCC Staffing and Training</p> <p>The continuous improvement of NCC coordinators is challenging because in addition to their primary roles of managing system energy and security there are additional demands from projects for subject matter experts, change implementation, and COVID requirements. Aside from challenges with finding time for continuous improvement, it is increasingly difficult to access the training simulator environment for internal training as well as real time exercises including industry partners.</p> <p>The Investigator recommends that the System Operator:</p> <ol style="list-style-type: none"> <li>1) Reviews the staffing of NCC coordinator roles with a view to facilitating continuous improvement.</li> <li>2) Reviews the adequacy of the training simulator environment for meeting the overall needs of training coordinators, real time exercises with industry partners, and projects.</li> </ol>	Ongoing	Assurance (reviewing Transpower output)	Issues to be considered as part of the Operational Excellence project. This will involve external consultants reviewing control room operating practices including our processes, change management practices, training, resourcing and behaviours to assure this part of operations is best prepared for a rapidly evolving future. Final vendor selection completed on 19 March.
PBA	<p>vii. Industry Training for Rare Events</p> <p>Training for rare events is a common problem for many industries. In this case, the NCC coordinators lack of familiarity with the LSR tool for nation-wide generation capacity shortages contributed to the incorrect DAN.</p> <p>The Investigator recommends that the System Operator identify rarely used procedures, review the associated training requirements, and take leadership in maintaining industry competence in handling rare events.</p>	25/05/2022	Assurance (reviewing Transpower output)	Part of the industry exercise project. See: EA Phase 1 (1A)
TL	2. Transpower policy GL-DP-008 Guidelines for Internal Communication During an Event or Incident be amended to specify in a GEN being issued due to anticipated insufficient generation, the GM Operations and CEO are to be immediately notified by phone.	30/04/2022	Assurance (reviewing Transpower output)	Remains open to undertake further review at conclusion of Operational Excellence project and industry exercise.
TL	9. System Operator and Corporate Communications develop an annual scenario practice session to help ensure readiness for future events.	30/06/2022	Assurance (reviewing Transpower output)	Part of the industry exercise project. See: EA Phase 1 (1A)