



T R A N S P O W E R

**ELECTRICITY
AUTHORITY**
TE MANA HIKO



Industry Exercise 2026

Key insights and recommendations

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1. Purpose

- 1.1. The purpose of this report is to share the key insights and recommendations from the Industry Exercise 2026 that was delivered by the Electricity Authority Te Mana Hiko (Authority) and Transpower (in its roles as both the System Operator and Grid Owner).

2. About the Industry Exercise

- 2.1. The Industry Exercise is a desktop simulation exercise for electricity market participants to rehearse and reinforce processes and communications for managing and responding to a major power system event.
- 2.2. The Authority and Transpower committed to an annual exercise after the grid emergency on 9 August 2021 that caused a significant power outage affecting more than 34,000 households in New Zealand.
- 2.3. The exercise brings electricity market participants together to practice and reinforce industry preparedness for a major power system event. The first exercise was run in 2022, with exercises held annually since.
- 2.4. We invite operations and communications/customer representatives from across the sector to participate to support their readiness to respond in a crisis. Observers are also invited, for example industry bodies, the Minister-approved consumer complaints service, and central government agencies.
- 2.5. The exercise aims to confirm, and build trust and confidence in, the industry's ability to appropriately manage an unexpected major power system event and minimise the impact on New Zealanders.
- 2.6. The exercise objectives are to:
 - provide a safe environment to test responses to a major power system event
 - build familiarity with System Operator processes and communications
 - rehearse industry operations and communications, including externally to consumers and other stakeholders
 - build and demonstrate capability and collaboration across industry
 - identify gaps or opportunities for improvement in processes, tools, communications and/or capability.

3. Industry Exercise 2026

- 3.1. The Industry Exercise 2026 was a desktop exercise on 20 and 21 May that simulated a major space weather event caused by a coronal mass ejection from the sun. This scenario was designed to test a coordinated response to protect the grid and other power system assets from the impacts of resulting geomagnetic induced currents from the coronal mass ejection.
- 3.2. Space weather was chosen as the sun is currently at solar maximum, the most active phase of its 11-year cycle and this is expected to continue until 2027. During

this period, both the likelihood and potential impact of solar storms are higher than usual.¹

- 3.3. Previous solar storms have shown that preparation and collaboration can make a real difference to sector preparedness and help minimise any potential impact on New Zealanders.
- 3.4. The exercise provided a safe environment for participating organisations to create and validate their space weather plans and procedures, and test an industry-wide response to an escalating incident.
- 3.5. Overall, the exercise was a valuable opportunity for participants to learn, practise and observe processes for an industry-wide response to a unique, yet realistic, scenario. The exercise helped identify opportunities to strengthen preparedness and improve future responses. Following the exercise, 74% of survey respondents (29 out of 40 respondents) said they planned to update organisational plans, processes and training across both communications and operational business areas.

Preparing for the exercise

- 3.6. The Authority and Transpower planned and coordinated the exercise together, with Transpower facilitating the exercise on the day.
- 3.7. The Authority contracted RiskLogic, a risk management consultancy, to support the exercise. This included:
 - presenting on crisis communications at the exercise briefing
 - running a communications simulator and posting communications injects for participants to respond to during the exercise
 - facilitating 'hot debrief' feedback sessions at the end of the exercise
 - conducting a post-exercise online survey
 - analysing the exercise and delivering an evaluation report for the Authority.
- 3.8. Transpower and the Authority, with input from the National Emergency Management Agency (NEMA), RiskLogic, and a space weather panel, delivered two webinars to provide participants with the knowledge needed to take part in the exercise.

5 March: Space weather and its potential impacts

This webinar covered:

- Why a space weather event was chosen and what the exercise aimed to achieve
- What space weather is, how it is monitored and how it can affect the electricity system

¹ Solar storms can occur at any time, however the probability of their occurrence is highest in the period from solar max to solar min. The majority of storms, approx. 37%, occur within solar max (around 2 years), 45% occur from solar max into descending phase (4-5 years), and about 2% in solar min.

- Timelines for space weather events and the assumptions that underpin them
- How events of different magnitudes can impact the electricity system and where impacts may be experienced
- Roles and responsibilities for key agencies during a space weather event, including Transpower as System Operator, generators, lines companies, direct connect participants, and retailers' Consumer Care Obligations
- Response plans and public information resources
- What to expect during the exercise

12 May: Exercise briefing

This webinar covered:

- Exercise overview and how it would run
- Protocols for operations and communications teams
- Use of workbooks and the communications simulator
- Crisis communications guidance

Industry Exercise 2026 in action

- 3.9. This year's Industry Exercise was held on 20 May 12.30pm-5.00pm and 21 May 9.00am-3.30pm. A total of 266 people from 58 organisations registered, including NEMA and Utilities Disputes. (See Appendix A for a list of participants).
- 3.10. The exercise had four phases to simulate the timeline of an extreme space weather event that resulted in demand management:
 - Phase 1: Event initiation and initial response
 - Phase 2: Escalation
 - Phase 3: Storm onset
 - Phase 4: Storm continuation to storm end
- 3.11. Participants were asked to complete online workbooks for three of the four phases. Operations and communications teams were encouraged to work together to discuss and complete the workbooks to build understanding of their respective roles. This provided participants with an opportunity to consider:
 - aspects of their planning and approach
 - their role and wider community impacts
 - how messaging evolves as the event unfolds
 - how they would resource and support their teams
 - the information transfer between operations and communications teams
 - where they may need to build capability and resilience.
- 3.12. Transpower, as System Operator, opened the exercise with an industry briefing. During the briefing, it advised the National Oceanic and Atmospheric Administration's (NOAA) monitoring equipment was predicting an extreme space weather event. The System Operator noted that uncertainty remained about the

event's onset, location, duration and magnitude, and advised it was receiving regular updates from the Space Weather Prediction Centre.

- 3.13. The System Operator advised the event could reach a G4² classification or higher. At this scale, the event had the potential to create voltage instability, asset tripping and transformer stress. Transpower advised it had set up an Incident Management Team to study the advice, and participants should expect to receive information via Formal Notices.³ This was likely to include requests for participants to make generation assets available and to update generation offers.
- 3.14. Throughout the exercise, the System Operator provided real-time simulated operational injects⁴ via a dedicated exercise email address and published preliminary demand management requirements. Participants were asked to submit any media releases and email communications through the communications simulator, either proactively or in response to communications injects. They could also log their non-public communications actions by sending these to the industry exercise email.
- 3.15. Participants shared information and advised their respective customers through the communications simulator. This included boosting information from NEMA and the System Operator and using language that reflected the potential severity of the event. Communications injects were posted to the simulator to test participants' operational and communications responses, giving participants an opportunity to practice how they would respond in a real situation, and how the industry could achieve a consistent message from national through to local channels.
- 3.16. Day one of the exercise closed at 5pm, to simulate the time between the notice of an impending geomagnetic storm and its onset. This gave participants an opportunity to plan and prepare for the following day.
- 3.17. At the start of day two, the System Operator convened an industry briefing to share the latest science advice and provide a forum for questions and discussion. Updated information indicated the storm could be 5-7 times more powerful than the 2024 Gannon geomagnetic storm.⁵ The System Operator advised the storm would have global impacts, gave information about the potential impact on satellites and prompted participants to respond to likely misinformation that could circulate online.
- 3.18. The System Operator also advised it would issue operational notices and requests/instructions to generators to shut down vulnerable generation assets and demand allocations to lines companies and direct connect participants.

² Space weather severity is measured on a scale to indicate future space weather conditions and their possible effects on people and systems, with G4 being 'severe' and G5 'extreme': [NOAA Space Weather Scales | NOAA / NWS Space Weather Prediction Center](#). The G- scale is a closed scale, the upper extreme level G5 incorporates the range of minor management "Small G5" like the Gannon storm of May 2024, through to a "very large G5" that will cause voltage instability, demand management and possible equipment damage.

³ Formal Notices include Warning Notices (WRN), Grid Emergency Notices (GEN) and Grid Emergency Reports (GEN RPT).

⁴ Injects during the exercise were imitation versions of operational and communication messages sent to participants via email, or uploaded to the communications simulator to prompt action and responses.

⁵ [Event 4457 - Gannon geomagnetic storm response summary and lessons learnt.pdf](#)

- 3.19. The System Operator convened another industry briefing to provide an update on data from L1 satellites, which provide 15-30 minutes' notice before impact, and to brief participants on the latest observations and geomagnetic activity.
- 3.20. Throughout day two, the System Operator continued to engage with participants, sharing updated demand allocations, grid reconfiguration and updated information from the science panel. Participants engaged well with the System Operator throughout, using phone and emails to test assumptions and improve the quality and accuracy of information. Communications out to customers also continued to evolve as the space weather increased in severity, proximity, and impact.
- 3.21. In the afternoon on day two, there was a 10-hour time jump. Following this, the System Operator ran a final industry briefing to provide an update on the storm, discuss generation and demand restoration, plan how industry would communicate throughout the restoration phase, and give instructions about the 'hot debrief' and exercise close.

4. Key insights and opportunities for improvement

- 4.1. The industry exercise provided an important opportunity to identify and action opportunities to improve incident response, as well as enhance the design and delivery of future exercises.
- 4.2. We gathered feedback via multiple methods, including observing the exercise, analysing operations and communications outputs, 'hot debrief' sessions, a post-exercise survey and RiskLogic's evaluation report. Below is a summary of the key insights and opportunities for improvement identified through this feedback.

Industry preparedness to an extreme space weather event

- 4.3. Overall, this year's exercise demonstrated a positive level of readiness to respond to an extreme space weather event and communicate effectively to stakeholders and consumers. We observed active participation and high levels of engagement throughout all stages of the simulation.
- 4.4. Some participants noted that bringing operational and communications teams together helped facilitate real-time discussions and enabled messaging to be developed alongside operational decisions and actions.
- 4.5. **Importance of incident management practices:** 71% of participating organisations reported using a Coordinated Incident Management System (CIMS) to manage incidents. However, only 57% of communications teams indicated they had received formal CIMS training. While this is a slight increase from last year (when 70% reported using CIMS and 53% had received formal training), the exercise highlighted the value of CIMS in supporting a coordinated and effective operational and communications response.
- 4.6. **Importance of flexible staffing arrangements:** Most participants reported having quick-response standby arrangements, on-call teams, and flexible staffing arrangements that could be activated in response to an event. Some also noted arrangements with local councils to support call handling and community engagement.

- 4.7. These findings suggest electricity industry participants understand the importance of strong incident management practices and have arrangements in place to support a coordinated response, including collaboration with lifeline utilities and other stakeholders during major events.
- 4.8. **Importance of collaboration:** A key focus of the industry exercise is to promote collaboration across the sector to improve understanding and consistency of information and increase the efficiency of how the sector responds to situations that impact the power system and consumers.

Examples from this year's exercise include:

- (a) Participants noted the exercise enhanced coordination between communications and operations teams by providing a safe place to better understand each other's roles and responsibilities. Using the same office space enhanced this experience, for some participants.
- (b) Participants noted they would use a range of communications channels to reach different consumer groups, including medically dependent consumers. This could include using secondary contact details, next-of-kin information and support from local partners.
- (c) Participants who used the communications simulator indicated the exercise was a valuable opportunity to practice and test their communications strategy, while being able to collaborate with industry peers and learn from each other.
- (d) Being able to see how other participants communicated with consumers eg, through use of templates, different media channels and personalised messaging, generated discussion and helped participants identify strengths and areas of improvement. It was positive to see messages acknowledging and thanking consumers for their patience and feedback.
- (e) Some retailer participants noted how they monitor websites and outage maps provided by lines companies to inform their messaging to customers. This highlighted opportunities for closer collaboration between retailers and lines companies to ensure consumers receive timely and accurate information.

Operations: strengths and lessons learned

- 4.9. Most participants indicated their existing CIMS and response plans would provide the flexibility needed to scale resources and coordinate an effective response. 74% of survey respondents (29 out of 40) indicated they intend to update organisational plans, processes and training across both communications and operational functions, positively demonstrating a commitment to continuous improvement.
- 4.10. The space weather panel has a remit to consider space weather impacts on the electricity system from a heliophysics/electrical engineering perspective. It has committed to "*working with Transpower to identify how the electrical network will respond during storms and construct a plan to mitigate the possible damage to New Zealand's electrical grid*".⁶ Additional guidance from tertiary academics could complement this technical expertise by providing social science perspectives,

⁶ [Industry Partners – Solar Tsunamis](#)

helping participants better understand potential social impacts, supporting consumer engagement and improving consumer outcomes.

- 4.11. Participants demonstrated a pragmatic approach in how they would respond to indicative demand allocations. Many indicated they would use load control in the first instance, and outage plans in line with information from the System Operator. Having retailer visibility of which feeders were being disconnected was noted as a way to better understand how consumers are affected. Some noted use of alternative supply options, such as diesel generators.
- 4.12. Participants reported being well set up for longer duration events through established welfare functions, fatigue management processes, liaison roles and shift arrangements for both operations and communications teams. Some also noted they would cancel planned works and call on support from other agencies, especially those with Incident Management Teams, providing opportunities for further collaboration.
- 4.13. Some lines companies noted they would use rolling outages on their networks rather than switching off the same feeders. They considered this approach would reduce the disruption on individual customers and maintain supply to critical infrastructure and economically significant loads where possible.
- 4.14. Some participants noted their plans are designed to cover multiple events occurring at the same time by using scalable incident management response plans, flexible emergency response processes, and prioritising safety, rather than treating each event in isolation. One participant noted that managing multiple events would be a challenge, while another considered there was room to strengthen plans by adding specific 'compound event' scenarios into future exercises and plan reviews.
- 4.15. As the event scenario moved to the restoration phase, we asked generation participants to consider how they would determine timing for when to offer their generation. Responses indicated that participants considered a broad set of safety, operational and technical factors, demonstrating a strong understanding of restoration priorities.
- 4.16. Some participants noted the need for human intervention in the restoration process, for example monitoring and testing, and said they would rely heavily on information from the science panel and Transpower. Gaps in information during this key phase could have significant impact on restoration times.
- 4.17. Participants identified opportunities to improve their planning and response by considering:

Training

- (a) providing training for their wider team on the communications channels and types of communication they can expect from their crisis team
- (b) incorporating the space weather scenario into control room operator training
- (c) co-ordinating the exercise with their annual internal exercises
- (d) having liaison roles help translate technical information from operations staff to incident support teams during an actual event

- (e) using the SMEAC framework (Situation, Mission, Execution, Administration/Logistics, and Command/Signal) to support clear and concise communications and updates

Tool enhancement

- (f) improving tools for load forecasting and operational planning
- (g) developing an internal tool or reference document to complement the System Operator's new Demand Allocation Tool⁷ and support a more streamlined process for determining where to apply demand allocations
- (h) enhancing Supervisory Control and Data Acquisition (SCADA) tools to help controllers with priority load shedding

Plan updates

- (i) undertaking further work with NEMA on science advice/input and strategic coordination across government
- (j) upgrading participant rolling outage plans to better support fast and accurate decisions for calculating and configuring the network
- (k) reviewing trigger points for reducing output or disconnecting generation, and updating response procedures
- (l) adding more detail into solar storm response plans, especially around non-generation engineering decisions and impacts, such as market operations, disclosures, staff wellbeing, customers, communications and insurance
- (m) improving how they determine load shedding requirements for short term grid emergencies where the Participant Rolling Outage Plan is less relevant
- (n) improving social media messaging for specific event types

Collaboration

- (o) enhancing coordination with retailers, particularly around medically dependent consumer data.

Communications: strengths and lessons learned

- 4.18. Operational communications used best-practice command language throughout the exercise. Participants appreciated early communications from the System Operator. Some feedback suggested that reducing technical jargon could further improve the clarity of messages and minimise the risk of misinterpretation.
- 4.19. For some participants, communications capability during the exercise was strengthened through subject matter expertise within their organisation and involvement with the Electricity Industry Space Weather Working Group.
- 4.20. Responses to injects in the communications simulator demonstrated strong communications capability, with a clear focus on keeping consumers informed.

⁷ The System Operator uses a Demand Allocation Tool to assist in managing demand, both controllable and real load. View more information [about the purpose and procedures involved](#).

Participants communicated early practical advice, such as charging devices, unplugging sensitive appliances and keeping emergency supplies to hand.

- 4.21. Some participants used AI-generated images depicting space weather in their communications. In some cases, these images included inaccurate representations of the Earth and Sun and the event. This highlights the need for any AI-generated content to be reviewed for accuracy before publication, as misleading imagery could create unnecessary concern or confusion for consumers.
- 4.22. Participants could see each other's communications through the simulator. It was positive to see the friendly consumer-focused tone and how some participants adapted information to demonstrate empathy and increase engagement with their customers.
- 4.23. Most participants repeated early messaging from NEMA and Transpower, supported by messages to consumers about other action being taken and that further information will be shared as it becomes available.
- 4.24. Some participants identified challenges in providing accurate information about when the impacts of a space weather event would be experienced on Earth. This highlights the importance of having pre-prepared communications templates and key messages that can be updated as events unfold and information becomes available.
- 4.25. Participants identified a wide range of internal and external stakeholders. It was positive to see a large number of non-sector stakeholders included, such as community groups, iwi and local councils. This emphasises the importance of stakeholder mapping for major events and ensuring contact information is up to date.
- 4.26. The majority of participants indicated they would direct customers to official media releases from Transpower and many modelled this approach during the exercise to give accurate information, share updates and handle misinformation. This approach increases confidence in the information provided and the System Operator's role.
- 4.27. Some participants said they would delete or not respond to customer comments containing misinformation, rather than correcting or challenging misinformation. This highlights the need to consider the most effective approaches for managing misinformation during a major event.
- 4.28. Participant feedback indicated the sector is prepared to use a broad range of communications channels, with many considering site visits and local radio, in addition to website updates, satellite phone, cell phone calls, SMS messages, email, and social media. It was positive to see some participants acknowledge that a space weather event could disrupt digital communication channels and that they had considered alternative ways to communicate with both customers and staff.
- 4.29. Some lines companies noted using an Advanced Distribution Management System and automated notifications to notify retailers about outages and where to access relevant information. One participant noted using an interactive voice response system, semi-automated with their Supervisory Control and Data Acquisition system, to provide updates on outage duration and restoration times.
- 4.30. Many participants used early communications to support community awareness and encourage preparedness, including boosting communications from Transpower and

NEMA. One participant noted its crisis team's use of an 'omnichannel' approach to ensure consistent information was provided across multiple platforms.

- 4.31. Some participants noted their Incident Management Team and call centres enabled extra resource and flexibility to respond to consumer queries and complaints. Some also noted that proactive communications and updating important information could help reduce the number of queries and complaints.
- 4.32. During the exercise, some participants posted more regularly to the communications simulator than others. This indicates some were highly prepared, ready and confident in their communications approach.
- 4.33. Communications injects into the communications simulator tested participants' ability to respond to a range of consumer concerns, including anger and frustration. Participant responses consistently demonstrated empathy and sought to provide accurate and useful information. Many participants also tailored their responses to individual comments, which was well received.
- 4.34. Workbook responses indicated there is no single preferred communication channel for industry participants during a major disruption, like a space weather event. Communication between retailers and lines companies appears to be heavily influenced by existing relationships and organisational size. A shared communications platform during an event could support greater collaboration and resilience.
- 4.35. Retailers reported they rely heavily on lines companies to update their websites and/or outage maps. Many noted they typically monitor these platforms for updates, rather than receiving proactive notifications from lines companies.
- 4.36. As the exercise moved to the restoration phase, it was positive to see participants focus on consistent messaging across the sector. Participants acknowledged that the impacts of a major system event could vary across regions and consumer groups, and restoration would occur at different rates depending on local circumstances.

Medically dependent consumers

- 4.37. Most retailers seemed well prepared to engage with medically dependent consumers and aware of their roles and responsibilities under the Consumer Care Obligations.
- 4.38. Most lines companies reported relying on retailers to notify medically dependent consumers of outages. The Consumer Care Obligations require retailers and lines companies to agree processes to coordinate with each other on planned service interruptions. During unplanned outages, this responsibility is determined by the default distributor agreement between the retailer and lines company. It was encouraging to see that many lines companies had systems and processes in place to support public communications, including encouraging consumers to contact their retailer and activate their emergency response plans.
- 4.39. Text and email were reported as the preferred forms of contact with medically dependent consumers. Some participants reported using automated read receipts to support follow-up processes and ensure messages had been received. Some participants indicated they would refer medically dependent consumers to family

members, community partners or neighbours, and, where appropriate, emergency services, if there was no emergency response plan in place.

- 4.40. During the exercise, some posts from medically dependent consumers in the communications simulator were not answered in a timely manner. Delays in responding to vulnerable consumers could reduce confidence in the sector's ability to provide timely and meaningful support during a major event. Future exercises could place greater emphasis on engagement with medically dependent consumers and other priority customer groups.
- 4.41. Most retailers seemed well prepared to engage with medically dependent consumers and highlighted the importance of:
- (a) discussing the importance of an emergency plan
 - (b) providing information and resources
 - (c) advising customers to call 111 in an emergency or immediate health risk
 - (d) keeping records of contact attempts and escalation outcomes
 - (e) regularly communicating and checking on medically dependent consumers
 - (f) encouraging alternate power solutions.
- 4.42. As the exercise moved through the phases, it was positive to see continued support for medically dependent consumers. Communications evolved from preparedness advice to active support and contingency planning messaging. This highlights a high degree of planning maturity and consumer focus.

Opportunities for the next exercise

- 4.43. **More participation:** Future exercises should seek to increase participation across the sector, particularly among retailers, which were underrepresented this year. Broader participation would help strengthen sector-wide preparedness, resilience and shared understanding.
- 4.44. **Exercise format:** The scenario was developed to realistically test and build capability for high-impact low-probability events. However, some participants noted the exercise could have been more fast-paced, with less time between activities. Delivering a one-day exercise, or two half-day session over a condensed timeframe, could help address this feedback, reduce the overall time commitment, and encourage broader participation, while still achieving the exercise objectives.
- 4.45. **Webinars:** The number and format of webinars should continue to be tailored to the objectives and scope of each exercise. Information should be clear, concise and focused on what participants need to know to take part effectively, while avoiding unnecessary detail.
- 4.46. **Exercise workbooks:** We appreciated the time and effort participants put into completing the workbooks. Completed workbooks were received from 35 participants for phases 1 and 2, and from 32 participants for phase 4.
- Future exercises should better align the amount of work required to complete each workbook with the duration of the exercise, so both operations and communications teams remain engaged throughout.

Increasing workbook participation would also help more organisations realise the benefits of the exercise, contribute to exercise outcomes, and strengthen sector-wide preparedness and resilience.

- 4.47. **Communications simulator:** *Instagram* and *LinkedIn* were added to the communications simulator this year. Continuing to align the simulator with the channels most commonly used by retailers will help ensure future exercises remain realistic and relevant.
- 4.48. **Scenario complexity:** Consider introducing additional unexpected developments to the scenario to further test participants' ability to respond to changing circumstances. For example, a simulated communications outage could test the impacts of satellite disruption and the loss of key communication channels. This could be supported by workbook questions that require operations and communications teams to work together to identify response options and alternative communications methods.
- 4.49. **Observer engagement:** Some observers noted it was difficult to engage as discussions and decisions occurred offline. Consider other ways to involve observers and support their understanding of the exercise.

5. Recommendations

- 5.1. We thank participants and their teams for their engagement with this exercise. They made it a valuable opportunity to test and refine operational and communications process for a high impact low probability event with high information uncertainty characteristics.
- 5.2. Based on the exercise findings, we have identified several opportunities to further improve industry preparedness and strengthen resilience across the electricity sector.
- 5.3. Some recommendations from previous industry exercises remain relevant. We have included these recommendations again to reinforce key learnings and support participants who are new to the sector or unfamiliar with previous exercises.

Recommendations for participants

- 5.4. We recommend all industry participants continue to strengthen their approach to demand management and consider how the following recommendations can help improve their organisation's resilience.
- 5.5. Many participants may already align with these recommendations, while others may still be considering or developing their approach in some areas. The recommendations are not listed in order of priority. Participants should determine their own priorities based on their level of maturity.
- 5.6. Participants should update their business continuity plans, communications plans and operational procedures to incorporate lessons learned from the Industry Exercise 2026. The plans should be reviewed by all impacted internal stakeholders to ensure these documents are practical, operationally workable and well understood.
- 5.7. Communications teams should consider investing in relationships with other communications teams across the industry and establishing agreed processes for

sharing information during an event. This will help ensure consistent messaging to shared customers and support communications that are aligned with Transpower's information.

- 5.8. We recommend all participants consider using CIMS, which is New Zealand's official framework for co-ordinating incident management across responding agencies. The aim of CIMS is to increase resilience and support the effective participant response to significant events. Where CIMS is used, organisations should ensure staff receive adequate training to maximise its value and align operational and communications processes.
- 5.9. For organisations not currently using CIMS, we recommend engaging with other organisations that use it to understand what works and how they can benefit from existing sector experience and strengthen collaboration.
- 5.10. Participants should plan and prepare for how they will identify and respond to misinformation and include this in their communications processes. Alongside critical communications from the System Operator and other emergency agencies, this will help provide consistent information to consumers and support greater understanding and response.
- 5.11. With increasing use of Artificial Intelligence across communications and operations, we recommend participants implement robust review and approval processes to ensure content does not contribute to misinformation, particularly inaccurate images or depictions of what consumers may experience.
- 5.12. Communications teams should be well prepared and have templates with key messages/materials ready to use during a real event. These could include emails, website statements, media statements and social media content. Teams can then tailor the templates with scenario specific information, enabling a timely and consistent response.
- 5.13. Communications teams should assess the language they use to ensure clarity and consistency including:
 - (a) accurate use of event-related terminology in line with System Operator communications
 - (b) clear requests for action for consumers
 - (c) caution when setting expectations. Use timeframes that give the most accurate information at the time of publication but can be adjusted, as required, to take into account new and evolving information when communicating restoration timelines
 - (d) plain consumer-focused language so communications are clear, concise and easy to understand by a wide audience, such as use of 'power cut' instead of 'power outage'
 - (e) use of empathy and reassurance to reflect the gravity of the situation.

For further communication tips and examples, see Appendix B.
- 5.14. Communications teams should have a process in place to regularly review their communications materials and identify opportunities to test and improve their readiness in line with communication best practice.

- 5.15. Communications teams should develop a clear stakeholder communication checklist which identifies who and when they should communicate with each stakeholder. This should include the 'relationship owner' for each stakeholder to clarify roles and responsibilities and reduce confusion.
- 5.16. Communications teams should comply with Privacy Act requirements around the collection, use and distribution of personal information.
- 5.17. Participants should review their Consumer Care Policy⁸ responsibilities to medically dependent consumers and ensure their responsibilities for communicating with consumers under the Default Distributor Agreement are clearly understood and documented.
- 5.18. To ensure key communications reach the broadest possible audiences, participants should consider providing information in other languages and using accessible formats for consumers who are deaf, hard of hearing, blind, have low vision, or have other accessibility needs.

Recommendations for the System Operator

- 5.19. Overall, we were impressed to observe the engagement and technical knowledge of the operations managers, system coordinators and grid asset controllers that participated in the exercise from the simulated control room.
- 5.20. We commend the involvement of the National Grid Operating Centre (NGOC) staff during the exercise, as it provided the ability to test operational communications between the National Coordination Centre and NGOC. We recommend further training with NGOC to help their operators understand when to escalate matters to the National Coordination Centre when communicating with other participants.
- 5.21. Participants highlighted their reliance on operational information from the System Operator, the Science Panel and emergency management agencies to support the delivery of accurate and timely communications. Because of this reliance, we recommend the System Operator develop failover communications plans with NEMA and the Science Panel to reduce the impact of possible communications outages with these organisations.
- 5.22. Participant feedback did not suggest changes to formal notices but indicated information could be improved by including updates on the level of induced currents, forward-looking constraint forecasts and more frequent updates during rapidly changing conditions to support faster, more confident operational decisions.⁹
- 5.23. The System Operator should consider how this information could be included, together with additional consumer-focused information on impacts, to complement the technical and grid-focused information and market schedule information it would provide in a real-life situation.

⁸ Retailers are required to publish a Consumer Care Policy under Clause 3(1) of Schedule 11A.1 of the Code, review it at least every two years (Clause 3(4)) and update it if necessary or desirable.

⁹ The System Operator notes they would have access to this information in a real event, along with market schedules.

- 5.24. To reduce any potential confusion about technical details provided in formal notices and customer advice notices (CANs) we recommend:
- (a) Verifying what level of technical detail is required for operational notices (eg, what magnetic field rate of change thresholds are required for participants to trigger their processes)
 - (b) Use of descriptive English language terms instead of mathematical symbols, where appropriate.
- 5.25. Regarding demand reduction, some participants sought clarification on how to interpret their demand allocations. We recommend taking opportunities to reinforce participants' requirements to meet load limits at the start of the relevant trading period, and to disconnect load within instantaneous load change limits.
- 5.26. We recommend the System Operator continue to provide clear, plain language communications and, where possible when sending operational notices, consider including additional key messages that explain what is happening, why and the potential implications. This will help industry participants align their communications with the System Operator's messaging.
- 5.27. We recommend the System Operator work with its emergency management partners and science panel to:
- (a) formulate an agreed data set that can be updated as needed and shared with participants, including information such as potential timelines and GIC severity
 - (b) ensure information provided verbally during industry briefings is clear, measured and proportionate to the level of risk and avoids language that could cause unnecessary alarm
 - (c) ensure experts are available to respond to questions in real time and provide follow-up information, as needed.
- 5.28. The System Operator must update its communications plans and operational procedures to incorporate lessons learned from the Industry Exercise 2026.

Recommendations for the Electricity Authority

- 5.29. The Authority must update its communications plan to incorporate lessons learned from the Industry Exercise 2026. This includes:
- (a) preparing key messages and responses for likely questions from participants, consumers and other stakeholders
 - (b) reviewing whether existing guidance adequately supports lines companies and retailers during an extreme space weather event and identifying and addressing any gaps.
- 5.30. The Authority should consider running targeted short-duration workshops to further test certain aspects of the exercise scenario that would benefit from increased focus e.g., communications with and support for medically dependent consumers.

Joint recommendations for the Electricity Authority and System Operator

- 5.31. For future exercises, the Authority and System Operator should consider setting up the *Teams* portal so that participants who join after the exercise has started can

view all previous messages, posts and communications from before they joined, so they can understand the full context.

- 5.32. The Authority and System Operator should continue to work closely with support agencies such as NEMA, Utilities Disputes and local councils, to improve their understanding of major power system event processes, operations and communications, and provide information in a format they can readily share with consumers.
- 5.33. The Authority and System Operator should consider building capability to provide tailored support for smaller organisations to help ensure they are prepared for major power system events.

Appendix A Industry Exercise 2026 participant list

Attendee Type	Organisation	
Lines company	Alpine Energy	PowerNet
	Aurora Energy	Scanpower
	Buller Electricity	Smart Net Limited
	Counties Energy	The Lines Company
	EA Networks	Top Energy
	Electra	Unison & Centralines
	Horizon Energy Distribution Limited	Vector LTD
	Mainpower	Waipa Networks
	Marlborough Lines	WEL Networks
	Network Waitaki	Wellington Electricity
	Network Tasman	Westpower
	Northpower LTD	PowerNet
	Orion Group NZ LTD	Westpower
Retailer	2degrees	Simply Energy
	For Our Good	The Energy Collective
	Maru Energy	Toast Electric
	Octopus Energy	Watts Good LTD
Generator/Retailer	Contact Energy	Mercury Energy
	Genesis Energy	Meridian Energy
	Lodestone Energy	Nova Energy
Direct connect industrial	Daiken Southland LTD	New Zealand Steel
	Fonterra	
Other participant	Bluecurrent LTD	Risk Logic
	LME Power LTD	Te Mana Hiko The Electricity Authority
	Manta energy	Transpower
	NEMA	
Observers	Acumen	Southland District Council
	Earth Sciences New Zealand	The Energy Collective
	Electricity Networks Aotearoa	UK Met Office
	Energy NZ	University of Auckland
	LME Power LTD	University of Canterbury
	MBIE	University of Otago - Solar Tsunamis Research team
	Plains Power	Utilities Disputes LTD

Appendix B Communications: tips and examples

Effective communication is crucial during a major power system event. Clear, timely and consistent communication helps manage public expectations, maintain trust, reduce confusion and support confidence in the electricity sector's response.

Transpower will develop centralised communications to ensure industry participants receive the same accurate information and consistent messaging. It will also have dedicated webpages or a website that participants can direct consumers and participants to as the single source of truth.

Here are some communication tips and examples to help industry participants prepare:

1. Prepare a communications plan in advance

- Pre-draft messages for different scenarios eg, short-term vs. prolonged outages
- Identify key internal and external communications channels eg, email, SMS, social media, website banners/alerts, customer contact centres and media channels
- Identify key stakeholders eg, medically dependent consumers, major customers, emergency management agencies, local councils and community organisations
- Identify a crisis team and assign clear roles and responsibilities
- Create templates for internal and external communications channels that can be quickly tailored with messaging from Transpower and scenario-specific information
- Prepare frequently asked questions
- Have a clear plan for medically dependent consumers that meets the Consumer Care Obligations
- Have a plan for monitoring and responding to mis/disinformation
- Prepare alternative communication arrangements in case normal channels are disrupted eg, satellite communications, internet services or mobile networks.

2. Communicate early and often

- Be proactive rather than reactive, where possible eg, acknowledge the situation early, even if all details aren't available
- Provide regular updates as the situation evolves, even if there's no new information – consistency helps maintain trust
- Be transparent about what is known, what is uncertain and when further information is expected
- Provide certainty where certainty is possible eg, that everyone will have power from a certain time in the evening and through to early the following morning
- Use any common event-related terminology and align messaging with information provided by Transpower to create consistency across industry
- Have frequently asked questions to anticipate concerns and help minimise queries.

Examples

Important update for all New Zealanders! Transpower has advised rolling power cuts will start from 1 August and may be up to 5 hours. If you rely on power for medical reasons, have a back up in place or call 111. Check if/when your power will be off at: [www...](#)

Power update: Transpower has advised the power shortfall has been reduced and the network is starting to return to normal. There are no more planned power cuts today across our network.

3. Use clear, concise and consumer-focused language

- Use plain consumer-focused language so communications are clear, concise and easy to understand by a wide audience, for example use 'power cut' instead of 'power outage'
- Be clear what it means for consumers and where they can find details and the latest information and updates
- Have clear calls to action so consumers know what they should do next.

Examples

We know how hard this situation is and we truly appreciate everyone's efforts...

What does this mean for you? Continue to plan for power cuts; The timing and length of power cuts varies by location; Check if/when the power will be off in your area at [www...](#); Be prepared for the situation to continue

4. Be transparent and honest

- Explain what is happening, where and why to build understanding
- Avoid overpromising – be realistic about timelines.

Examples

Power cuts are a tough but necessary step to manage our power supply and prevent more serious unplanned cuts.

We are required by Transpower to reduce power demand to meet national energy savings required to manage energy shortfalls (due to minimal rainfall and low hydro lake levels). This means we will have to turn parts of our network off for fixed periods of time in order to meet the savings targets required Transpower.

5. Be empathetic and supportive

- Acknowledge the inconvenience, disruption and stress consumers may be experiencing
- Provide practical advice to help consumers prepare for and manage a power cut, such as charging essential devices, keeping fridge and freezer doors closed, and checking on family members, neighbours and vulnerable people
- Use empathetic and reassuring language that reflects the seriousness of the situation while helping consumers feel informed and supported
- Offer helpful tips on how to prepare for and manage in a power cut, such as keeping the fridge/freezer closed, checking on neighbours
- Use empathy and reassurance to reflect the gravity of the situation
- Thank consumers for their patience, cooperation and support.

Examples

Be prepared for the scheduled power cut tomorrow – charge essential devices, unplug sensitive electronics, plan for medical needs, prepare food and water.

Thanks to your incredible efforts, we've made a real difference! Thanks for doing your part for Aotearoa.

Appendix C Space weather resources

The links below provide access to a range of publicly available space weather resources. We have compiled these resources to provide participants with background information on the broader implications of extreme space weather events on the electricity sector and consumers.

This list is intended as a starting point only and is not comprehensive. We have not independently verified all information contained in these resources. Participants should undertake their own assessment and seek expert advice where appropriate.

Space weather information and images

- NASA Library. Free use for educational purposes: [NASA Image and Video Library](#)
- Space Weather Prediction Centre: www.spaceweather.gov (for educational resources and information about whom NEMA and the Science panel engage with).
- Royal Observatory of Belgium: [Space Weather and Climate | SIDC](#) (for additional science resources and alerts).
- European Space Agency: [Current Space Weather - Space Weather](#) (for more background science information).
- South African National Space Agency (SANSA) Space Weather [SANSA Space Weather - Home](#) (for more background science information).
- International Space environment Service – collective of multiple space weather entities www.spaceweather.org
- [NOAA Space Weather Scales | NOAA / NWS Space Weather Prediction Center](#) (Accepted international standard terminology and ratings)

Government resources

- [Space Weather Canada](#) (for more background science information).
- The Canadian *get prepared* site considers a vast geography, including the more Solar radiation-prone Arctic Circle and advice to mitigate digital tool failures (eg, printed maps) [Space Weather – Get prepared - Canada.ca](#)