Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

Version 7. Effective on 24/11/2026

Participant Rolling Outage Plan

The copyright of this publication is the property of Wellington Electricity. No part of this publication may be reproduced by photocopying or by any other means without prior written permission of Wellington Electricity.

In Confidence

Document Register

Document Author:	Name:	Andrew Twaddle
	Position:	Network Operations Manager
Document Reviewer:	Name:	Craig Ramsay
	Position:	Team Leader Operations & SCADA Control
Document Recommender:	Name:	Itrat Hussain Khawaja
	Position:	Manager Network Development
Document Approver:	Name:	Ali Sawar
	Position:	General Manager Service Delivery

Revision Register

Revision	Issued Date	Reason for revision	Change reference	Supersedes
	28/03/2017	Draft for internal review		
1	31/03/2017	For Internal Approval		
2	3/04/2017	For SO Approval		1
3	12/10/2020	Approved for External Disclosure		2
4	3/03/2023	General Updated		3
5	20/08/2024	Refer section 9 of this document for a complete summary of the changes included in this version.		4
6	31/08/2026	Refer section 9 of this document for a complete summary of the changes included in this version.		5
7	29/10/2026	System Operator requested amendment. Refer section 9 of this document		6
End of Revision Register				

Document Review

A document review shall be conducted no more than **2 years** from the date of this revision, or at such a time changes may be required due to a change of policy, scope, or technical content.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

Contents

1. PURPOSE 4
2. POLICY 4
3. SCOPE 4
4. DEFINITIONS 5
5. REFERENCES 6
6. BACKGROUND 6
6.1 Electricity Authority 6
6.2 Transpower 6
6.3 Supply and Demand 6
6.4 The Authority's Response to Security of Supply Emergencies 7
7. ACTIONS FOR AN IMMEDIATE EVENT 9
7.1 Automatic Reduction 9
7.2 Communications 9
7.3 Manual Load Reduction 9
7.4 Supply Restoration 10
7.5 Transmission Grid Emergency 10
8. ACTIONS FOR A DEVELOPING EVENT – IMPLEMENTING THE PROP 10
8.1 Authorisation to Receive Direction and Activate the PROP 10
8.2 Implementation of Rolling Outages 11
8.3 Coordination with Grid Emergencies 16
8.4 Maintaining Performance over Time 16
8.5 Monitoring and Reporting Performance Against Targets 17
8.6 Load Restoration 17
8.7 Communication Strategy 17
9. SUMMARY OF CHANGES 18
APPENDIX A ROLLING OUTAGE LOG 19

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

1. Purpose

Electricity distribution quality depends upon many factors including the balance of generation capacity and load consumption. Certain events, including a shortfall in generation capacity, system failure or load increase, could cause widespread disruption. As a result, the Electricity Authority (EA) requires all participants to develop and publish Participant Rolling Outage Plans (PROP), as outlined in the requirements of Electricity Industry Participation Code 2010 (the Code) Parts 9.4 (d through f), 9.6 to 9.13 and the System Operator Rolling Outage Plan (SOROP), sections 5 and 6

Wellington Electricity Lines Ltd (WELL) has prepared this plan to comply with the code and provides for the management and coordination of planned outages as an emergency measure during energy shortages.

Under the Code, the PROP is required to specify the actions that would be undertaken to reduce the consumption of electricity to:

- When a supply shortage is declared by the System Operator (SO); and
- Comply with the requirements of the SO's Rolling Outage Plan (SOROP); and
- Comply with the Code and subsequent amendments.

Reducing demand by disconnecting supply to consumers would be the last resort after all other forms of load reduction efforts, including voluntary savings, had been employed. WELL will always endeavour to keep consumers supplied. Consumer disconnection will only occur when WELL is directed to by the System Operator or for safety reasons.

While this is WELL's planned response, a change in circumstances or network conditions may require WELL to adjust this plan to operating conditions at the time.

2. Policy

WELL has prepared this Participant Rolling Outage Plan to comply with the Electricity Authority's System Operator Rolling Outage Plan (SOROP) requirements. The SOROP in turn meets the requirements of Part 9 of the Electricity Industry Participation Code 2010 (the Code).

3. Scope

This procedure shall be followed by the WELL Network Control Room when instructed to implement a shedding strategy to achieve specific savings target as instructed by the System Operator.

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

4. Definitions

Term	Definition
Automatic Under Frequency Load Shedding (AUFLS)	Relays that automatically trip blocks of load, following a severe under-frequency event, to restore the system frequency.
EA (the Authority)	Electricity Authority.
Feeder	A high voltage supply line typically supplying between 100 and 2000 customers.
Grid Emergency Notice (GEN)	Formal notice issued by the System Operator in accordance with Technical Code B – Emergencies, Schedule 8.3, Part 8.
Grid Exit Point (GXP)	Any point of connection on the grid: (a) at which electricity predominantly flows out of the grid; or (b) determined as being such by the Electricity Authority following an application in accordance with clause 13.28 of the Code.
Network Control Room (NCR)	WELL owned control room housing the Network Controller(s).
PROP	Participant Rolling Outage Plan.
National Grid Operations Centres (NGOC)	Transpower operations centres (two) that are responsible for the management and switching of grid assets.
Rolling Outages or Rolling Cuts	Planned electricity disconnections spread over different parts of the network at differing times to avoid prolonged outages at any one location
SCADA	Supervisory Control and Data Acquisition.
SOROP	System Operator Rolling Outage Plan.
Supply Shortage Declaration	Declaration made by the System Operator under Part 9.1.4 of the Code.
System Operator	Transpower, in its capacity as the System Operator, runs the wholesale electricity market and operates the power system.
The Code	The Electricity Industry Participation Code 2010 (Code) is the set of rules that governs nearly every aspect of New Zealand's electricity industry.

Table 1: Definitions

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

5. References

Reference	Title
ENM-027	Detailed Methodology for Implementing Rolling Outages
ERS-001	Major Event Management Plan
ERS-003	Emergency Load Shedding Strategy
SOROP	System Operator Rolling Outage Plan
The Code	Electricity Industry Participation Code 2010
Wellington Lifelines Group	Priority Utility Sites Project Report

Table 2: References

6. Background

6.1 Electricity Authority

The Electricity Authority is an independent Crown entity responsible for supporting the efficient operation of New Zealand's electricity market and must act in accordance with its statutory objective under the Electricity Industry Act 2010.

6.2 Transpower

Transpower is a State Owned Enterprise responsible for operating New Zealand's National Grid, which comprises the high-voltage transmission lines and substations that transport bulk electricity from generation sources to distribution companies, including WELL.

In its role as System Operator, Transpower manages the real-time operation of New Zealand's electricity transmission system. This includes maintaining the continuous balance between electricity supplied to the network and demand from connected loads.

6.3 Supply and Demand

Transpower, as the System Operator, manages the transmission network so electricity generation stays balanced with customer demand. This balance can become harder to maintain when there is:

- Not enough generation available
- Not enough transmission capacity available

These issues can arise for several reasons, including:

1. Low lake levels reducing hydro generation
2. Fault on a critical transmission circuit
3. The loss of a large generator

The first situation may develop gradually and lead to an energy shortage over time. The second would usually occur with little or no warning and could create a shortage of transmission capacity.

The third situation could also occur suddenly and may cause both an immediate reduction in generation capacity and an energy shortage that develops over time.

Any of these situations could be serious enough for the System Operator to issue a Supply Shortage Declaration.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

Version 7. Effective on 24/11/2026

In Confidence

6.4 The Authority's Response to Security of Supply Emergencies

Events that may result in the System Operator declaring a supply shortage are generally categorised as follows:

- **Developing Event** – An event that develops over time, such as sustained low hydro lake levels or reduced fuel availability.
- **Immediate Event** – An event that occurs with little or no warning, typically due to a transmission line failure or the loss of major generation.

During a Security of Supply Emergency, WELL will manage both Developing Events and Immediate Events as major incidents in accordance with its **Major Event Management Plan (ERS-001)**.

The Major Event Team consists of senior WELL operational managers and, where required, specialist personnel from across the business to support incident response and decision-making.

6.4.1 Wellington Electricity Network

WELL's distribution network supplies Wellington, Porirua, Lower Hutt, and Upper Hutt. The region is a major commercial centre and the seat of government, including Parliament Buildings and most government department head offices.

The supply area is shown in **Figure 1**.



Figure 1: Wellinton Electricity Network Area

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

The Wellington CBD is the region's primary commercial and retail centre. Significant commercial and retail centres are also located in Lower Hutt, Porirua, and Upper Hutt. Outside the CBD, residential load is distributed across the network area, with pockets of commercial and light industrial load.

WELL's network is supplied from Transpower's national transmission grid through nine Grid Exit Points (GXPs). Central Park, Haywards, and Melling supply the network at both 33 kV and 11 kV, while Kaiwharawhara supplies the network at 11 kV only. The remaining GXPs; Gracefield, Pauatahanui, Takapu Road, Upper Hutt, and Wilton, supply the network at 33 kV only.

6.4.2 Wellington Electricity's Means of Reducing Load

WELL may reduce load through the following measures:

- Direct load control, including interrupting domestic water heating or disconnecting customers.

  While reducing domestic water heating load can lower peak demand, it provides limited overall energy savings, as the deferred consumption is typically recovered later in the day.
- Indirect demand reduction through public communications and advertising campaigns encouraging customers to reduce or modify electricity use.
- Customer disconnection as a last resort, only after all other practicable measures, including voluntary energy savings, have been exhausted.
- Customer disconnection where further load reduction is required for Immediate Events or meaningful energy savings during Developing Events.

Customer disconnection may be achieved through:

- Automatic schemes, such as Automatic Under-Frequency Load Shedding (AUFLS); or
- Manual load reduction measures implemented under the Participant Rolling Outage Plan (PROP).

Sections 7 and 8 of this document detail the actions required for Immediate Events and Developing Events, respectively.

6.4.3 GXP with PROP Feeders

Table 3 identifies the WELL GXPs where rolling outages may or will not occur.

GXP	GXP Name	Rolling Outage May Occur (Yes/No)	Reason Why GXP Excluded
CPK	Central Park	Yes	
GFD	Gracefield	Yes	
HAY	Haywards	Yes	
KAI	Kaiwharawhara	Yes	
MLG	Melling	Yes	
PNI	Pauatahanui	No	Reserved for AUFLS
TKR	Takapu Road	Yes	
UHT	Upper Hutt	Yes	
WIL	Wilton	Yes	

Table 3: GXP PROP Allocation

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

7. Actions for an Immediate Event

7.1 Automatic Reduction

Transpower, as the System Operator, is required to keep enough reserve generation to cover the risk of the largest generator tripping. They are also required to keep the system frequency at 50 Hz. If a large generator trips, it may cause a reduction in frequency which if not rectified can result in other generators tripping and could lead to cascade failure of the transmission system.

Because reserve generation cannot immediately replace the output of a disconnected generator, immediate load reduction is required until additional generation can be brought online. Automatic load shedding groups reduce demand in stages until system frequency stabilises.

Electricity consumption may be reduced in response to Immediate Events through the following measures:

7.1.1 Reserve Market

Generators with spare capacity and users with Interruptible Load (IL), including distribution networks, may offer reserve capacity into the Instantaneous Reserves (IR) market to manage major generation or transmission trip risks. WELL ceased offering water heating load into the Reserve Market in December 2024.

7.1.2 Disconnecting Customers

Further automatic load reduction will be required if IL tripping does not stabilise the network or if system frequency falls below the Reserve Market threshold.

WELL must always have available, four load blocks to be shed by automatically under-frequency relays, this is referred to as an AUFLS event. The four AUFLS load blocks are configured to operate at a different threshold frequency as detailed in **Table 4**.

	Percentage of Load Shed	Trigger Frequency
Block 1	10%	47.9Hz
Block 2	10%	47.7Hz
Block 3	6%	47.5Hz
Block 4	6%	47.3Hz

Table 4: AUFLS Block Details

7.2 Communications

The System Operator is expected to communicate with the WELL Network Control Room through Transpower's National Grid Operations Centres (NGOC), the normal channel for operational matters.

7.3 Manual Load Reduction

In certain circumstances, the System Operator may direct WELL to manually shed load. Under the Code, WELL is required to comply with such a direction. Any manual load reduction involving rolling outages must be carried out in accordance with the procedure for a Developing Event, as detailed in Section 6.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

7.4 Supply Restoration

Disconnected load must be restored in coordination with the System Operator to avoid overloading the transmission network or causing further network instability.

7.5 Transmission Grid Emergency

If the System Operator requests WELL to reduce load under a Grid Emergency Notice (GEN), WELL will:

- Shed all water heating load first; and
- If required, shed feeders in accordance with WELL's **Emergency Load Shedding Strategy (ERS-003)**.

If a transmission grid emergency is declared during an Immediate Event, the grid emergency takes priority.

8. Actions for a Developing Event – Implementing the PROP

Rolling outages may be used to manage Developing Events, but only as a last resort after other energy-saving measures, including voluntary savings, have been applied.

If the System Operator declares a supply shortage and directs load reduction, WELL must meet the specified targets, which may be reviewed weekly. To achieve these targets, WELL may implement controlled feeder disconnections under the PROP.

8.1 Authorisation to Receive Direction and Activate the PROP

8.1.1 Declaration of a Developing Event

During a Developing Event, the System Operator will endeavour to provide at least 9 days notice of weekly energy-savings requirements, including any target increases.

When declaring a supply shortage, the System Operator will specify the regional energy savings target and applicable timeframe.

WELL will acknowledge any direction to save energy in accordance with Section 6.13 of the System Operator Rolling Outage Plan. The Network Operations Manager will confirm receipt by email to system.operator@transpower.co.nz.

On receipt of a direction to prepare for rolling outages, the WELL NCR personnel will notify WELL management, who will activate the **Major Event Management Plan (ERS-001)**. The Control Room personnel will then begin rolling outage preparations to meet the System Operator's instructions. Final approval to commence rolling outages resides with WELL's Chief Executive Officer.

The System Operator is expected to manage general media advertising on electricity conservation and pending rolling outages.

8.1.2 Rolling Outages

Where the System Operator directs demand reduction, WELL's Network Operations Manager will initiate rolling outages following authorisation from WELL's Chief Executive Officer, in accordance with this plan and the applicable outage strategy. The Network Operations Manager will ensure that a load-shedding schedule is prepared in advance and that load is controlled and monitored to meet the required targets.

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

8.1.3 Key Communication Roles

Table 5 identifies the WELL personnel responsible for receiving System Operator instructions, activating the PROP, and coordinating related communications:

Communications with	Communications Type	Role	Personnel	Contact Number
System Operator	Operational Matters	Network Control Room	Rostered Duty Controller	+64 4 570 3751
	Managerial and Administrative Operational Matters	Network Operations Manager	Andrew Twaddle	+64 21 199 3133
	Escalation	GM Asset Management	Waqar Qureshi	+64 27 285 0637
Retailers	General Retailer Notifications	Outage & Work Scheduling	Neil Johansson	+64 21 798 665
	Formal Communications	Customer Services Manager	Sharlene Meyer	+64 21 199 4761
Public Agencies	All Enquiries	CEO	Greg Skelton	+64 27 475 7822
Media	All Enquiries	Media Enquires Service Desk	Duty Media Spokesperson	+64 21 194 6253
	Media Statements	CEO	Greg Skelton	+64 27 475 7822

Table 5: WELL Personnel Involved with the PROP

Wellington Electricity address: 1 Queen Street, Upper Hutt, PO Box 40813, Lower Hutt 5140.

The System Operator is expected to direct most communications with the Network Control Room through Transpower's National Grid Operations Centres (NGOC), as this is the established communication channel for operational matters.

8.1.4 Retailer Agreements

WELL currently has no agreements in place with retailers or consumers that would prevent or restrict compliance with directions issued by the System Operator.

8.2 Implementation of Rolling Outages

WELL has developed a methodology to determine the load shedding required to meet System Operator savings targets.

Using the following documents, WELL will prepare a rolling outage plan setting participating feeder shed and restore times to achieve the required savings targets:

- Current AUFLS and PROP feeder lists.
- Half-hourly kWh values for each 11 kV feeder for the equivalent period in the previous year.
- A spreadsheet for calculating potential savings from feeder shedding strategies.

8.2.1 Rolling Outages Timeline

The System Operator will endeavour to provide at least 9 days' notice of weekly energy-saving requirements, including any changes to the target, to enable pre-outage planning, load shedding, and schedule adjustments based on the previous week's achieved savings, as outlined in **Table 6**.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
Savings target received		Rolling outages commence →			
Feeders selected for rolling outages	Stakeholders notified of pending outages for the following week	Stakeholders notified of pending outages for the following week	Stakeholders notified of pending outages for the following week	Stakeholders notified of pending outages for the following week	Stakeholders notified of pending outages for the following week
			Savings calculated. Adjustments made to schedule if required for week 5	Savings calculated. Adjustments made to schedule if required for week 6	Savings calculated. Adjustments made to schedule if required for week 7

Table 6: Rolling Outages Timeline

8.2.2 Allocating Feeders to PROP Categories

Feeder selection for rolling outages should consider the System Operator's preferred criteria in **Table 7** to protect public health and safety and minimise economic impact. This document assumes AUFLS and rolling outage feeder allocation are managed separately, as outlined in Section 8.2.6.

Priority	Priority Concern	Maintain Supply to:
1	Public health and safety	Major hospitals, air traffic control centres, and emergency operation centres.
2	Important public services	Energy control centres, communication networks, water and sewage pumping, fuel delivery systems, major ports, and public passenger transport.
3	Public health and safety	Minor hospitals, medical centres, schools, and street lighting.
4	Food production	Dairy farms and milk production facilities.
5	Domestic production	Commercial and industrial premises.
6	Disruption to consumers	Residential premises.

Table 7: Load Priority

The System Operator's recommended priorities should be applied as guidelines only, noting that:

- Rolling outages are implemented on a feeder-by-feeder basis;
- Individual customers on the same feeder cannot always be distinguished; and
- A predominantly residential feeder may also include small pockets of commercial or industrial customers.

Priority site information is also informed by the Wellington Lifelines Group Priority Utility Site Response and Recovery project, which:

- Was undertaken in 2007 and reviewed in 2013;
- Identified key community facilities and utility sites needed to support recovery following a major emergency; and
- Identified service restoration requirements for those sites.

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

For the Lifelines project, key health, safety, and public service providers set priorities according to their circumstances and were grouped by sector and site type, refer **Table 8**.

Where sectors have multiple priority levels, these have been considered and, where practical, factored into feeder selection.

Lifelines Priorities:

Priority 1 No functionality or service delivery can be maintained without this supply

Priority 2 Some functionality or service delivery can be maintained without this supply

Priority 3 Functionality or service delivery can generally be maintained without this supply

Priority	Sector
1	Fuel (diesel, petrol), Electricity (lines company), Emergency Management, Water Supply, key Community Facilities (Hospitals), sections of the electricity transmission and distribution, and major fuel terminals. Telecommunication exchanges and sites, airports, and Wastewater pumping Stations.
2	Emergency Management, key Community Facilities (Hospitals), sections of the electricity transmission and distribution, and major fuel terminals. Telecommunication (TV and radio transmission) exchanges and sites, Transport (harbour, rail and airports), Wastewater (pumping Stations and treatment plants), Water Supply (pumping stations and treatment plants)
3	Emergency Management, key Community Facilities (Hospitals), Wastewater (pumping Stations)

Table 8: Wellington Lifelines Group Priorities

Feeders selected for shedding will be prioritised according to load type and the applicable priority criteria. Residential consumption represents approximately 35% to 51% of total energy consumption across WELL's network. Most feeders include some residential customers; however, feeders with the highest proportion of residential load and the lowest number of Priority 1 and Priority 2 customers will be prioritised for rolling outages.

WELL's shedding categories are:

- **Category 1** – Feeders typically serving residential or non-CBD commercial load, and generally the most suitable for shedding.
- **Category 2** – Feeders typically serving CBD commercial or industrial load and shed less frequently.
- **Category 3** – Feeders supplying critical load, which should not be shed. Where required, non-critical loads may be isolated at distribution substation level to reduce demand.
- The same criteria were used to select feeders for AUFLS tripping.
- AUFLS load blocks are predominantly drawn from Category 1, reducing the number of Category 1 feeders available for rolling outages unless the System Operator grants an exemption.
- Without an exemption, Category 2 and, where necessary, Category 3 feeders may need to be included in rolling outages.
- As total load decreases during rolling outages, the required AUFLS load will also decrease, and some feeders reserved for AUFLS may need to be included in rolling outage schedules.

8.2.3 Schedule of the Previous Year's Half-Hourly kWhr Values

Rolling outage savings targets will be set as a percentage reduction against the corresponding period in the previous year. The target level of savings will determine the duration of outages and the feeders selected for interruption.

Half-hourly kWh consumption data from the previous year is required to establish the baseline against which current energy usage will be measured. The WELL Network Development team is responsible for ensuring this data remains readily available.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

8.2.4 Feeder Shedding Schedules

Transpower supplies WELL from nine Grid Exit Points, each represented in the shedding schedules. WELL procedure **ENM-027 (Detailed Methodology for Implementing Rolling Outages)** sets out the process for developing feeder shedding schedules for a savings scenario using the shedding spreadsheet PROP Scheme Tool 2026.xlsx.

During rolling outage preparation, the Network Development team will use the tool to prepare daily feeder shedding and restoration schedules for NCR review before submission to the System Operator.

The PROP Scheme Tool applies minimum AUFLS block percentage requirements to ensure AUFLS coverage is maintained during rolling-outage operations. Where a block does not meet the required minimum, the tool identifies the issue so the feeder drop schedule can be adjusted by reallocating shed time to AUFLS-designated feeders until the AUFLS checks are satisfied.

Actual feeder selection may vary from this plan due to operational requirements. Feeder schedules will therefore not be made publicly available, to avoid uncertainty regarding which feeders may be disconnected. Where rolling outages are pending, WELL will notify retailers, who may then notify their customers.

8.2.5 Shed Times Required to Meet Savings Targets

Participant Rolling Outage Plans must achieve up to 25% energy savings against the same period in the previous year, allowing for other savings measures, including national conservation campaigns. The WELL PROP Scheme Tool provides feeder shedding strategies to achieve 5%, 10%, 15%, 20%, and 25% savings. **Table 9 (Winter Guide Hours) and Table 10 (Summer Guide Hours)** show the guide hours calculated by the tool for winter and summer under the default shedding strategy:

- Shedding occurs during the day, as instructed by Transpower, when it most directly supports hydro generation savings.
- Maximum daily shed times are 12 hours for Priority 1 feeders and 10 hours for Priority 2 feeders.
- The default energy contribution split is 60% from Priority 1 feeders and 40% from Priority 2 feeders, subject to adjustment at higher savings targets.
- Weekend shedding is used only where weekday allowances are insufficient to meet the energy target.

Winter Guide Hours					
Target Savings	**Hours Shed – Priority 1**	**Hours Shed – Priority 2**	**Hours Shed – Priority 3**	**Days per week**	**Contribution Split (P1/P2)**
5%	5	2	0	5	60%/40%
10%	10	3	0	5	60%/40%
15%	10	4	0	7	60%/40%
20%	11	6	0	7	50%/50%
25%	11	9	0	7	40%/60%

Table 9: Guide hours for Winter and Summer shedding times

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Summer Guide Hours					
Target Savings	**Hours Shed – Priority 1**	**Hours Shed – Priority 2**	**Hours Shed – Priority 3**	**Days per week**	**Contribution Split (P1/P2)**
5%	5	2	0	5	60%/40%
10%	10	3	0	5	60%/40%
15%	11	4	0	7	60%/40%
20%	12	6	0	7	50%/50%
25%	12	9	0	7	40%/60%

Table 10: Guide Summer shedding times

8.2.6 AUFLS Under Rolling Outages

AUFLS contribution as a share of system load is time-dependent through the day and across seasons. The WELL PROP Scheme Tool enforces minimum block percentages to ensure AUFLS coverage is preserved during rolling-outage operation. If a block's minimum is not met, this is flagged so that the developer of the feeder drop schedule can adjust which AUFLS-designated feeders receive shed time until the AUFLS checks pass on.

8.2.7 Management of Load Variation

To ensure the network remains stable during rolling outages, WELL will use the best endeavours to:

a. Not increase or decrease its demand by more than 25 MW in any five-minute period without the system operator's prior approval
b. Endeavour to manage load reduction and restoration to minimise the impact on frequency and voltage stability
c. Minimise the disconnection and restoration of its load during times when demand is typically ramping up or down in the region affected by the supply shortage (for example, either side of the morning and evening peaks).

8.2.8 Logging Rolling Outages

The WELL Control Room will record times of disconnection and reconnection of all feeder interruptions. The log sheet to be used by the Control Room personnel record the same information required by the Rolling Outage Log sheet shown in Appendix A of this document.

The Engineering Planning team will use this log and daily recalculate the achieved savings and alter the feeder switching schedule as appropriate to maintain the target level required.

8.2.9 Supply Restoration

Load disconnected during rolling outages must be restored in conjunction with the System Operator. This is to prevent overloading the transmission network and creating further instability. WELL will ensure that all feeders are returned to service in a controlled manner to maintain system stability.

8.2.10 Other Planned Outages

During periods of rolling outages, WELL may postpone planned maintenance and project-related outages to support demand reduction objectives and maintain network resilience.

8.2.11 Contingent Events

If an unplanned event occurs that affects the planned rolling outage programme, WELL's Major Event Team, in accordance with ERS-001 Major Event Management Plan, will be responsible for

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

all decisions and stakeholder communications relating to any changes to the published programme

8.2.12 AUFLS Exemption

The System Operator may determine that one or more of the AUFLS blocks are not required for grid security and may temporarily release distributors from their AUFLS obligations. In these circumstances, WELL could utilise feeders normally reserved for AUFLS as part of its rolling outage programme.

However, the System Operator may revoke this exemption at any time if network conditions change. Given the requirement to provide advance customer notification of rolling outages, feeders within exempted AUFLS groups are unlikely to be included in planned rolling outages due to the uncertainty surrounding their ongoing availability.

8.3 Coordination with Grid Emergencies

Arrangements to manage Grid Emergencies, as defined in Part 1 of the Electricity Industry Participation Code, take immediate precedence over the implementation of rolling outages. Upon receipt of a GEN (Grid Emergency Notice) from the System Operator, WELL Network Control Room personnel are authorised to take all necessary operational actions, including the disconnection of high-voltage feeders, to comply with the requirements of the GEN. The duty WELL Network Control Room Controller will initiate a priority notification.

If a Developing Event is in progress, the Grid Emergency will take precedence.

Any reduction in energy consumption achieved because of the Grid Emergency must be considered when assessing the savings achieved under the Developing Event. Once the Grid Emergency has concluded, the rolling outage schedule may be adjusted to reflect the savings already achieved. At a minimum, the impact of the Grid Emergency must be considered when preparing the schedule for the next rolling outage period.

Restoration of disconnected load must be coordinated with the System Operator to prevent overloading of the transmission network and avoid creating further system instability

8.4 Maintaining Performance over Time

At the end of each week of rolling outages, the effectiveness of the load-shedding strategy must be assessed. This assessment enables the shedding strategy to be refined for the following week in accordance with the process outlined in the Rolling Outages Timeline (Table 3). Where necessary, adjustments may also be made to the shedding strategy during the current week.

Using the Rolling Outages Log, WELL can determine the duration for which individual feeders were disconnected. Comparison of current load data against half-hourly kWh data from the corresponding period in the previous year allows the actual energy savings achieved to be calculated.

Where actual savings meet the target reduction, the existing shedding strategy may be retained for the subsequent week. However, where there is a variance between the target and the savings achieved, the shedding strategy must be reviewed and adjusted as required.

Factors to be considered during this assessment include:

- The difference between the target savings and the actual savings achieved, including the effects of voluntary customer demand reduction and changes in electricity consumption patterns;
- Differences between the planned shedding schedule and the actual feeder outages implemented during the week, as recorded in the Rolling Outages Log;
- Any revised savings targets issued by the System Operator; and
- The extent of load associated with energy storage devices, such as hot-water cylinders and battery systems, where energy consumption may be deferred rather than permanently reduced.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

The PROP Scheme Tool will be used to develop a revised shedding schedule that delivers the savings required to achieve the applicable target reduction.

8.5 Monitoring and Reporting Performance Against Targets

The processes described in Section 6.2 of the System Operator Rolling Outage Plan will be used to monitor and report on the energy savings achieved through rolling outages.

Where a weekly energy savings target has been established, the NCR team will monitor actual savings against the target. In conjunction with the Network Operations Manager and the Network Planning team, the NCR team will review the rolling outage programme and, where necessary, adjust the extent of load shedding to ensure the required weekly savings target is achieved.

The Network Operations Manager is responsible for preparing daily reports on actual energy consumption relative to the target levels.

The Network Operations Manager is also responsible for:

- Providing half hourly GXP level demand forecast information (in MW) for conforming GXPs for the week ahead on a rolling daily basis, once their savings targets have been notified.
- Providing a rolling seven days planned outage list, updated daily.
- Acknowledgment, within 48 hours (two days) of receipt of a direction by return email to the system operator, unless otherwise specified in the direction.
- Developing events, the methodology for planning for disconnection of electricity (nine days out to real time).

This information will be provided to the System Operator through the NCR and the Transpower National Grid Operations Centre (NGOC).

The General Manager Service Delivery is responsible for reporting Wellington Electricity's overall compliance with the required savings targets to the System Operator.

8.6 Load Restoration

Load disconnected as part of the rolling outage programme will be restored in coordination with the System Operator. This is necessary to prevent overloading of the transmission network and to minimise the risk of further system instability.

It is expected that communications between the System Operator and WELL's Network Control Room (NCR) will primarily be conducted through the National Grid Operations Centre (NGOC), which is the established communication channel for operational matters.

Any direction from the System Operator to revoke a supply shortage declaration must be communicated to the Network Control Room in the first instance, followed by written confirmation to WENetworkControlRoom@Welectricity.co.nz. This notification will enable the Network Control Room and WELL personnel responsible for customer, media, emergency services, and stakeholder communications to initiate the appropriate response.

Any load remaining disconnected at the time the declaration is revoked must be restored in a controlled manner and in consultation with the System Operator to ensure the ongoing stability and security of the electricity system.

8.7 Communication Strategy

Where rolling outages are required to reduce demand, WELL will endeavour to provide advance notice to customers through appropriate media and communication channels. Due to daily variations in electricity demand, the timing, duration, and extent of advertised outages will be indicative only and may be subject to change.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

WELL, is unable to completely prevent rolling outages from affecting individual vulnerable customers and priority sites. In addition to applying feeder prioritisation principles when developing the rolling outage programme, WELL will:

- Provide information through public notices and website updates advising vulnerable customers of the potential risks associated with rolling outages; and
- Request that electricity retailers consider directly notifying vulnerable customers of the potential for supply interruptions.

Where practicable, WELL will also provide information to support customers in preparing for and responding to planned rolling outages.

9. Summary of Changes

This section outlines the major changes made from the previous versions (5 and 6) of this document.

Section 6.4.3 - GXP with PROP Feeders

- Table 3 amended to include GXP names.

Section 7.1.1 - Reserves Market

- Removed references to water heating load being offered into the reserves market, reflecting WELL's withdrawal from this market in December 2024.
- Removed the associated table detailing reserve market load offerings.

Section 7.1.2 - Disconnecting Customers

- Updated AUFLS information to reflect transition from two AUFLS blocks to four.

Section 8.1.3 - Key Communication Roles

- Table 3: Key Personnel Involved with the PROP - Update contact phone numbers and include individual names as previously requested by System Operator.
- Update head office address details.

Sections 8.1.1 - Declaration of a Developing Event and 8.2.1 Rolling Outages Timeline

- Corrected references to advance notice requirements.
- Clarified that the 14 day notice period applies to a supply shortage declaration, while the advance notice period for savings requirements is nine days.

Section 8.2.4 - Shed Times Required to Meet Savings Targets

- Amended wording for clarity.
- Added a hyperlink to the new PROP Scheme Tool.

Section 8.2.5 - Shed Times Required to Meet Savings Targets

- Remove Figure 2 (Feeder Off Time).
- Added separate winter and summer shedding tables.

Section 8.5 - Monitoring and Reporting Performance Against Targets

- Amended to incorporate the reporting requirements requested by the System Operator.

All Sections

- Minor editorial amendments made to improve clarity, accuracy, and consistency.

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence

Version 7. Effective on 24/11/2026

Appendix A Rolling Outage Log

LOAD SHEDDING PERIOD: from _____ to _____ page _____ of _____

SUBSTATION NAME	CIB NUMBER	FEEDER CATEGORY	TIME OPENED	TIME CLOSED	SHED DURATION (hrs)	LOAD DROPPED (kW)	LOAD RESTORED (kW)	APPROX kWhr SHED	COMMENTS
			T_1	T_2	(T_2-T_1)	L_D	L_R	***	
						TOTAL			

*** Approx kWhr Shed calculated as = $0.5*(L_D+L_R)*(T_2-T_1)$

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

End of Document

Version 7. Effective on 24/11/2026

Warning: Printed copies of this document not in an official Manual MAY NOT BE THE LATEST. The most up-to-date version is located on the Intranet.

In Confidence