



SECURITY OF SUPPLY

PARTICIPANT OUTAGE PLAN

ELECTRICITY NETWORK CONTINGENCY PLAN

NW20.40.09

DETAILS OF DOCUMENT AMENDMENT No.00	
Section amended	Description of amendment

The latest amendments are marked with a vertical line against the left margin. New text is **red** and removed text that has been left for clarity is **green**.

TABLE OF CONTENTS

1.	INTRODUCTION.....	5
2.	PURPOSE.....	5
3.	DEFINITIONS.....	5
4.	BACKGROUND.....	6
5.	RANGE OF EVENTS.....	6
6.	ORION STAFF RESPONSIBILITIES.....	7
7.	COMMUNICATION WITH THE COMMISSION.....	7
8.	ACTIONS FOR IMMEDIATE (CATEGORY B) EVENTS.....	7
9.	DEVELOPING (CATEGORY A) EVENTS.....	9
10.	DECLARATION OF CATEGORY A EVENT.....	9
11.	CRITERIA FOR ROLLING OUTAGES.....	9
12.	AUFLS UNDER ROLLING OUTAGES.....	11
13.	SHUTDOWN NOTIFICATION.....	11
14.	COMMUNICATION WITH SYSTEM OPERATOR.....	12
15.	GRID EMERGENCY DURING CATEGORY A EVENT.....	12
16.	ROLLING OUTAGES STRATEGY AND METHODOLOGY.....	12
17.	TARGET MONITORING.....	16
18.	LOG OF ROLLING OUTAGES.....	16
19.	CONTINGENT EVENTS.....	16
20.	APPENDIX A – ROLLING OUTAGE FEEDERS.....	17
21.	APPENDIX B – ROLLING OUTAGE LOG.....	30
22.	APPENDIX C – DRAFT ROLLING OUTAGE PUBLIC NOTICE.....	31
23.	APPENDIX D – MAJOR OUTAGE COMMUNICATION PLAN.....	32

1. INTRODUCTION

This plan was written to comply with the Electricity Commission's Security of Supply Outage Plan (SOSOP).

The procedures outlined are in response to major generation shortages and/or significant transmission constraints. Typical scenarios include unusually low inflows into hydro-generation facilities, loss of multiple thermal generating stations or multiple transmission failures.

How an event is declared and how the Electricity Commission should communicate its requests are detailed.

The main energy saving measure listed is rolling outages and how these are structured and implemented is discussed.

2. PURPOSE

Under the regulations, participant outage plans (POP) are required to specify the actions that would be taken to;

- Reduce electricity consumption when requested by the Electricity Commission
- Comply with requirements of the Electricity Commission's Security of Supply Outage Plan (SOSOP)
- Comply with Electricity Governance (Security of Supply) Regulations 2008 and Electricity Governance (Security of Supply) Amendment Regulations 2009
- Supplement the Electricity Commission's Security of Supply Outage Plan

Reducing demand by disconnecting supply to customers would be a last resort after all other forms of savings including voluntary savings had been exhausted. Orion will always endeavour to keep supply on to customers.

3. DEFINITIONS

AUFLS	Automatic Under Frequency Load Shedding
The Commission	Electricity Commission
Feeder	A high voltage supply line typically supplying between 100 and 2000 customers.
GXP	Transpower Grid Exit Point
GEN	Grid Emergency Notice
POP	Participant Outage Plan (this plan)
NW20.40.05	Disconnection of Demand as Required by EC Rules
OR00.00.07	Major Outage Communication Plan
Regulations	Electricity Governance (Security of Supply) Regulations 2008 and Electricity Governance (Security of Supply) Amendment Regulations 2009
Rolling Outages	Planned electricity disconnections spread over different parts of the network at differing times to avoid prolonged outages at any one location.
Security Coordinator	the person responsible for system security at the System Operator.

SOSOP	Security of Supply Outage Plan
Supply Shortage Declaration	Declaration made by the Electricity Commission under regulation 9.
System Operator	Operator of the national electricity transmission grid

4. BACKGROUND

4.1 Electricity Commission

The Electricity Commission is a Crown entity set up under the Electricity Act to oversee New Zealand's electricity industry and markets.

A function of the Electricity Commission under the Electricity Act is to use reasonable endeavours to ensure the security of electricity supply. The Commission's activities include forecasting supply and demand, developing and publishing guideline hydro levels for security of supply, contracting for reserve energy, and improving the ability of consumers to manage price risks in the market.

4.2 Transpower

Transpower is a State Owned Enterprise, tasked with owning and operating New Zealand's National Grid - the network of high voltage transmission lines and substations that transports bulk electricity from where it is generated to distribution line companies such as Orion.

As System Operator, Transpower manages the real-time operation of New Zealand's electricity transmission system. It keeps the right amount of energy flowing to match generated supply with demand.

4.3 Orion

Orion is the electricity network company that owns and maintains the electricity lines and cables that deliver power to the Christchurch and Central Canterbury region between the Waimakariri and Rakaia rivers.

5. RANGE OF EVENTS

Events that could lead the Commission to make a supply shortage declaration can in general terms be categorized as;

- **Developing (Category A) Event** – Events that evolve over time, for example low hydro lake or fuel levels.
- **Immediate (Category B) Events** – Events that occur with little or no warning, usually as a result of a transmission line or major generation failure.

5.1 Major Incident

A Category A or Category B event will be classed by Orion as a major incident and Orion's management team will activate the appropriate contingency plan and will manage the incident accordingly.

Communication with retailers, civil defence and other stakeholders will be as per notification procedures described in our Major Outage Communication Plan OR00.00.07 (Appendix D).

6. ORION STAFF RESPONSIBILITIES

ROLE	ORION PERSONNEL
Receive communication from Commission	CEO or Commercial Manager
Receive communication from System Operator	Control Centre
Implement this plan	Operations Manager
Preparation of load shedding schedules	Control Centre Manager
Customer notification	Release Coordinators
Weekly savings reporting	Commercial Analyst
Revoking rolling outages	Commercial Manager
Reporting to Electricity Commission	Commercial Manager
Reporting to media, public agencies	Commercial Manager
Reporting to CDEM and Lifelines	Operations Manager ¹

7. COMMUNICATION WITH THE COMMISSION

The Commission can contact Orion using the following details:

Orion New Zealand Ltd
 FAX +64 3 363 9899
 PH +64 3 363 9898
 P.O. Box 13896, Christchurch 8141
 218 Manchester Street, Christchurch 8011

Orion will contact the Commission's Emergency Response Project Manager for administration purposes (including reporting performance against targets) using the following details:

Electricity Commission
 FAX: 04 460 8879
 PH: 04 460 8860
 PO Box 10041
 Level 7, ASB Bank Building, 2 Hunter Street
 WELLINGTON

8. ACTIONS FOR IMMEDIATE (CATEGORY B) EVENTS

8.1 System Stability

Transpower, as the System Operator, is required to keep enough reserve generation to cover the risk of the largest connected generator tripping. They are also required to keep the system frequency at 50Hz. If a large generator trips, it may cause a reduction in

¹ See Appendix D – Major Outage Communication Plan for details

frequency which if not rectified can result in other generators tripping and could lead to cascade failure of the transmission system.

As reserve generation cannot immediately pick up the load of a disconnected generator, an immediate load reduction is required until additional generation can pick up load. Automatic load shedding groups reduce load in stages until the frequency stabilises.

To recover from category B events electricity consumption can be reduced by;

8.2 RESERVE MARKET

Generators and load users with interruptible load such as distribution networks may offer in reserve capacity to cover the risk of the largest generating unit or a critical transmission line tripping. The ability to do this is affected by the numbers of frequency capable relays installed and the likely revenue stream from the market less the compliance costs of participating in the reserve market. Orion does not presently participate in this market.

8.2.1 Disconnecting Customers

8.2.1.1 Automatic Under Frequency Load Shedding (AUFLS)

If the load shed by the Reserve Market tripping is insufficient to stabilise the network, further automatic load reduction is required.

Each distribution network company must unless exempted have available at all times two blocks of load each of 16% of its total load to be shed by automatic under frequency relays.

8.2.1.2 AUFLS Zone 1

If system frequency fails to recover after Reserve Market load shed, AUFLS Zone 1 shedding will occur by disconnecting customers supply. In the Orion Network the tripping relays are owned by Transpower and whole zone substations are tripped. AUFLS feeders are listed in NW20.40.05.

8.2.1.3 AUFLS Zone 2

If zone 1 tripping fails to restore frequency, the next stage, zone 2 activates. This will disconnect a further 16% of Orion's Network.

8.2.1.4 Manual Shedding

If AUFLS Zone 1 and Zone 2 tripping fails to stabilize frequency the System Operator will shed more load. Emergency load shedding feeders are listed in NW20.40.05.

Once the frequency has stabilised the System Operator will advise Orion Control Centre when load can be restored.

8.3 Supply Restoration

Restoration of disconnected load must be restored in conjunction with the System Operator. This is to prevent overloading the transmission grid and/or creating further instability.

8.4 Transmission Grid Emergency

The System Operator may request Orion to reduce load under a grid emergency notice (GEN). Orion will shed all water heating load, the System Operator will be advised and if more shedding is required the System Operator will instruct the Grid Owner to disconnect load as per the emergency load shedding feeders listed in NW20.40.05.

If a category B event is in place, the grid emergency will take precedence.

If the Commission declares a supply shortage during a Grid Emergency, then Orion will respond by implementing rolling outages as described in the following "Developing Events" section.

9. DEVELOPING (CATEGORY A) EVENTS

If the Commission requests through the System Operator a load reduction for a planned category A event, Orion must reduce supply to meet the Commission's targets. The targets are likely to be in the form of a weekly energy savings target that is reviewed each week. To reduce energy usage Orion would disconnect feeders or groups of feeders where they belong to a parallel or ring supply (rolling outage feeders) in a controlled manner to enable targets to be reached.

There are financial penalties for not meeting the targets specified by the Commission.

Water heating load shedding is generally not an option for energy savings.

10. DECLARATION OF CATEGORY A EVENT

The Commission will endeavour to provide 9 days prior notice of the requirement for weekly energy savings and any increase in the weekly energy savings target.

To declare a Category A event the Commission would need to request through the System Operator who will specify the energy savings target to be enforced for a specific region for a specified time-frame.

The Commission is responsible for general media advertising of the need to conserve electricity and the impending rolling outages when they are requested.

If Orion plans to issue a public message related to rolling outages then this will be sent to the Commission for review before being released. Any such communication will give a time for response from the Commission, so as their feedback can be included before Orion issues the message to the public.

11. CRITERIA FOR ROLLING OUTAGES

To ensure public health and safety is preserved and costs to economy are minimised the following table shows a desired criteria for selecting rolling outage feeders to be included in rolling outages.

11.1 Table 1. Priority Loads

Priority	Priority Concern	Maintain Supply to:	Examples
1	Public health and safety	Major hospitals, air traffic control centers, and emergency operation centers.	CDHB hospitals CHCH International Airport Major police stations Orion main building
2	Important public services	Energy control centers, communication networks, water and sewage pumping, fuel delivery systems, and major port.	Telecom major connections Major malls Rural fire and police stations Lyttelton Port Lyttelton Tunnel Burnham military
3	Public health and safety	Minor hospitals, medical centers, schools, and street lighting.	Dental Medical Schools Colleges Universities Halls of residence Prisons Major hotels
4	Food production	Dairy farms and milk production facilities.	All irrigation category All rural connections with a description that includes dairy, farm, irrig, pig, poultry, or cow. Synlait milk factory
5	Domestic production	Commercial and industrial premises.	Every "BUS" connection with an account name starting with "MR" or "MRS" Temporary builders' supplies
6	Disruption to consumers	Residential premises.	All "RES" connections Wigram embedded network Belfast embedded network Churches Speed cameras Parks (mainly lighting and irrigation)

Rolling outage feeders will all contain a variety of customers. The priority for each rolling outage feeder will be based on the priority ratings assessed for the connections within each feeder, according to the following:

Priority 1	Any feeder that has one or more priority 1 connections
Priority 2	Any feeder that has three or more priority 2 connections
Priority 3	All feeders that have an average priority ≥ 2.5 and < 3.5
Priority 4	All feeders that have an average priority ≥ 3.5 and < 4.5
Priority 5	All feeders that have an average priority ≥ 4.5 and < 5.5
Priority 6	All feeders that have an average priority ≥ 5.5

Rolling outage plans will focus on higher priority feeders to the extent possible, and the lower priority feeders being selected only at the higher required savings levels. Rolling outage feeders with the same priority and in the same area (according to our grid exit areas) are grouped together into rolling outage groups. This level of grouping

simplifies the planning, management and notification of rolling outages. The areas (GXPs for rolling outages) are:

A	Addington
B	Bromley
C	Hororata / Springston (covers Banks Peninsula)
D	Papanui
E	Islington 33
F	Islington 66
G	Middleton

For example, group A6 refers to all rolling outage feeders in the Addington GXP area with a priority of 6.

11.2 Vulnerable Customers and Priority Sites

It is not possible for Orion to prevent rolling outages affecting individual vulnerable customers and priority sites. In addition to the prioritisation of rolling outage feeders, Orion will:

- Provide information in its public notices and website alerting vulnerable customers to the risks, and
- Request that retailers consider individually notifying their vulnerable customers.

12. AUFLS UNDER ROLLING OUTAGES

The level of AUFLS during rolling outages needs to be maintained. Orion will either:

- exclude the current AUFLS feeders from its rolling outage plans, which means that supply to lower value loads may be maintained while higher value loads are cut, or
- include AUFLS feeder shedding but limit the shedding to ensure that two AUFLS blocks of 16% are maintained. That is, if we shed 20% of our network load we would also shed up to 20% of the AUFLS load.
- arm additional higher value load feeders to supplement the AUFLS load, and exclude these from its rolling outage plan.

This document is drafted assuming that AUFLS feeders are excluded from shedding. However, where time permits, we would install and arm AUFLS relays on the higher value load feeders.

13. SHUTDOWN NOTIFICATION

With the wide scale impact of rolling outages it is not feasible to use our standard planned outage notification process (mainly because retail and postal systems could not process the hundreds of thousands of outage notifications required).

When implementing a rolling outage plan, Orion will notify the outages in a number of ways:

- **Public notices** - Orion will place public notice advertisements (see draft in Appendix C) providing a rolling outage timetable showing the times and areas affected by rolling outages. The advertisement will provide details of our website page for customers that wish to seek more information.
- **Orion website** - a dedicated website page will be set up which shows the rolling outage timetable, and allows customers to type in their ICP number to establish which rolling outage group they belong to.
- **Retailer notification** - Orion will provide the rolling outage timetable to all electricity retailers together with a schedule showing the rolling outage group for all ICPs (it is not appropriate to filter the schedule for an individual retailer's ICPs as this places switching ICPs at risk).

Where possible, Orion will provide 7 days notice of all rolling outage plans, generally publishing and issuing notifications on a Monday to apply from the following Monday.

14. COMMUNICATION WITH SYSTEM OPERATOR

All communications with the System Operator will be between Orion's Control Centre and Transpower's Regional Operating Centre (South) using Transpower's TSX telephone or normal communication systems.

Prior to notifying and implementing a rolling outage plan, Orion will consult with the System Operator Security Coordinator to establish a process for shedding and restoration, which may include a MW load cap to operate under during restoration phases. Unless agreed with the System Operator, load shedding and restoration shall be no more than 25MW per 5 minutes.

15. GRID EMERGENCY DURING CATEGORY A EVENT

If the system operator declares a grid emergency during a category A event, the grid emergency will take priority. As water heating load generally would not be used to reduce load in a category A event, Orion would have water heating load available for load reduction when required for the grid emergency. This load would be shed, the System Operator advised and if more shedding is required the System Operator will instruct the Grid Owner to disconnect load as per the list of emergency load shedding feeders in NW20.40.05.

After the grid emergency is cancelled the rolling outages pattern would continue.

16. ROLLING OUTAGES STRATEGY AND METHODOLOGY

The Operations Manager, Control Centre Manager and Release Coordinators will review weekly targets and prepare plans for weekly rolling outages based on savings required.

The methodology is:

- Each distribution feeder exiting a zone substation (or switching station, or group of feeders where they belong to a parallel or ring supply) will be named as a "Rolling outage feeder".
- Rolling outage feeders will be assigned a priority according to the criteria specified in section 9. Rolling outage feeders in the same GXP area with the same priority will be grouped together for switching (creating 42 rolling outage groups, A1 to G6). Feeders that belong to AUFULS block 1 and 2, or alternative AUFULS feeders

where implemented, will be excluded from rolling outage groups unless we apply the alternative AUFLS arrangements outlined in section 12.

- A set of switching instructions will be prepared for each rolling outage group.
- A winter weekday morning (8am to 12pm) and an afternoon (1pm to 5pm) average energy volume will be estimated for each group, based on the average July daytime loadings.
- A plan will be prepared to target the required savings level, taking account of any under or over savings carried forward from earlier periods in the security of supply outage plan. As far as possible, groups should be selected depending on the saving level required, as follows:

Savings required	Priority groups used
0 to 5%	5 and 6
5 to 10%	3, 4, 5 and 6
Greater than 10%	All groups

Further, as far as possible, the total outage durations should be determined to meet the following relationship:

Group Priority	Relative duration
6	10
5	8
4	6
3	4
2	2
1	2

To the extent possible, outages should be programmed to be held during daylight hours, between 8am and 5pm, but extending into the evening where necessary to achieve the required savings level or accommodate switching logistics.

Unless advised otherwise by the System Operator, the rolling outages plan must provide sufficient time for switching of load to ensure that Orion’s load does not increase or decrease by more than 25MW in any 5 minute period. The Controllers carrying out switching are to monitor their activities in relation to this limit.

Having established the week ahead rolling outage plan and despite significant uncertainty in predicting customer behaviour during these types of events, Orion will use best endeavours to produce a rolling week ahead half hourly load for each GXP. This will be updated daily to reflect any adjustments to our plan and forwarded to the System Operator in the format outlined below.

Date: (table for each of the next 7 days)			
Trading period	GXP name	GXP name
1	MW load	MW load	MW load
2	MW load	MW load	MW load
↓	MW load	MW load	MW load
48	MW load	MW load	MW load

If Orion is unable for some reason to meet the load disconnection/restoration ramp rates, or if there is expected to be a material departure (greater than 20%) from the previously provided half hourly GXP load forecast / load profile, then Orion would communicate directly with the System Operator (ie the Security Coordinator) to ensure that real time security issues can be managed.

Using the methodology, and excluding current AUFLS feeders, indicative plans for savings are:

5% Savings Schedule				10% Savings Plan			
Group Priority	Cuts per week	Cut Duration (h)	Weekly savings (MWh)	Group Priority	Cuts per week	Cut Duration (h)	Weekly savings (MWh)
6	6	4	3,624	6	7	7	7,399
5	4	4	528	5	6	6	1,187
4	0	0	0	4	5	5	37
3	0	0	0	3	3	4	33
2	0	0	0	2	0	0	0
1	0	0	0	1	0	0	0
			4,151				8,656
Average weekly winter volume			81,429	Average weekly winter volume			81,429
Estimated percentage savings			5.1%	Estimated percentage savings			10.6%

15% Savings Plan				20% Savings Plan			
Group Priority	Cuts per week	Cut Duration (h)	Weekly savings (MWh)	Group Priority	Cuts per week	Cut Duration (h)	Weekly savings (MWh)
6	7	9	9,512	6	7	11	11,626
5	7	7.5	1,731	5	7	9	2,077
4	7	5.5	57	4	7	6	62
3	5	4	55	3	7	4	78
2	3	4	654	2	5	3	818
1	2	4	173	1	4	2	173
			12,183				14,834
Average weekly winter volume			81,429	Average weekly winter volume			81,429
Estimated percentage savings			15.0%	Estimated percentage savings			18.2%

25% Savings Plan			
Group Priority	Cuts per week	Cut Duration (h)	Weekly savings (MWh)
6	7	15	15,854
5	7	12	2,770
4	7	10	103
3	7	5	97
2	6	4	1,308
1	5	4	432
			20,565
Average weekly winter volume			81,429
Estimated percentage savings			25.3%

17. TARGET MONITORING

To avoid discrepancy over the accuracy of different data sources, the Electricity Commission (in conjunction with the System Operator) will report on actual demand versus the target.

For load shedding to a weekly target, the Commercial Analyst will monitor the Electricity Commission report of our savings results to our target and together with the Commercial or Operations Manager, review future load shedding to increase or decrease amount of rolling outages to enable the weekly target to be met. In parallel (as a check) with the Electricity Commission, the Commercial Analyst will be responsible for daily and weekly reporting of consumption relative to target levels (using our data sources).

In the case of daily or real time limits where the Electricity Commission reporting will be too slow for real time action to be taken, the Operations Manager with the assistance of the Commercial Analyst will monitor our savings and adjust accordingly in the timeframe required. These savings will be calculated using GXP loads measured by our SCADA system and compared with the targets supplied by the system operator.

18. LOG OF ROLLING OUTAGES

Controllers will enter in the Rolling Outage Log, times of disconnection and reconnection of all feeder interruptions. The log sheet to be used by Controllers is shown in Appendix B.

19. CONTINGENT EVENTS

If an unplanned event occurs that will alter planned rolling outages, the Control Centre Manager will be responsible for all decisions. Where possible, any changes to the planned timetable should be published on Orion's website and communicated to retailers.

20. APPENDIX A – ROLLING OUTAGE FEEDERS

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
A-5	2682C1280140	ADDINGTON GXP (CB 2682)	CB 2682	1,325			42	4		5.3
NA	2742C1280140	ADDINGTON GXP (CB 2742)	CB 2742	18			7			
NA	0111KO120067	ANNAT (CB 111)	CB 111	422	1	175	61		1	5.7
NA	0112KO120067	ANNAT (CB 112)	CB 112	115	1	56	42			5.4
NA	0113KO120067	ANNAT (CB 113)	CB 113	380	1	218	55		4	5.7
A-5	011BC1380432	ARMAGH (CB 11B)	CB 11B	1,606			148	2		4.5
A-6	012AC1380432	ARMAGH (CB 12A)	CB 12A	1,794		1,054	77	1		6.0
A-4	012BC1380432	ARMAGH (CB 12B)	CB 12B	0			19			4.0
A-1	013BC1380432	ARMAGH (CB 13B)	CB 13B	1,132		18	126	2		5.4
A-6	014AC1380432	ARMAGH (CB 14A)	CB 14A	1,247		760	52	1		6.0
A-4	014BC1380432	ARMAGH (CB 14B)	CB 14B	921			12	2		3.7
A-3	003BC1380432	ARMAGH (CB 3B)	CB 3B	339			56	3		3.0
A-6	004AC1380432	ARMAGH (CB 4A)	CB 4A	2,772		1,226	145	1		6.0
A-6	004BC1380432	ARMAGH (CB 4B)	CB 4B	1,702		63	157	2		5.8
A-5	005AC1380432	ARMAGH (CB 5A)	CB 5A	1,039		4	64	2		5.0
A-6	005BC1380432	ARMAGH (CB 5B)	CB 5B	2,479		216	207	6		5.9
A-6	006BC1380432	ARMAGH (CB 6B)	CB 6B	927		7	66	1		5.8
A-6	007AC1380432	ARMAGH (CB 7A)	CB 7A	1,919		761	133	1		6.0
A-6	008AC1380432	ARMAGH (CB 8A)	CB 8A	2,469		422	168	1		6.0
NA	0622BE060027	ARTHURS PASS TRANSPower GXP (CB 622)	CB 622			131	28			5.9
NA	0111SE060033	BANKSIDE (CB 111)	CB 111	111	1	23	16		20	4.9
NA	0112SE060033	BANKSIDE (CB 112)	CB 112	34	1	4	3		3	4.8
NA	0113SE060033	BANKSIDE (CB 113)	CB 113	249	1	35	15		23	5.0
NA	0114SE060033	BANKSIDE (CB 114)	CB 114	135	1	43	20		26	5.1
B-6	0010C1610028	BARNETT PARK (CB 10)	CB 10	934		662	40			5.9
B-6	0012C1610028	BARNETT PARK (CB 12)	CB 12	682		461	15			5.9
B-6	0002C1610028	BARNETT PARK (CB 2)	CB 2	1,382		571	104			5.9

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
B-6	0004C1610028	BARNETT PARK (CB 4)	CB 4	176		168	14		5.9	
B-6	0006C1610028	BARNETT PARK (CB 6)	CB 6	575		315	41	1	5.9	
B-6	0008C1610028	BARNETT PARK (CB 8)	CB 8	676		449	18		6.0	
B-6	0009C1610028	BARNETT PARK (CB 9)	CB 9	1,319		779	58		5.9	
NA	PNS1C1670015	BERESFORD ST NO.62	CB 3 at BRIGHTON CB 14 at BRIGHTON	2,533	2	1,543	172		6.0	
NA	PNS1C1570104	BEXLEY RD NO.81	CB 8 at BRIGHTON CB 15 at BRIGHTON	2,404	2	1,638	69		6.0	
D-2	PNS1C1170063	BISHOPDALE	CB 5 at PAPANUI GXP CB 7 at PAPANUI GXP CB 9 at PAPANUI GXP CB 11 at PAPANUI GXP CB 13 at PAPANUI GXP	14,655		5,508	628	13	5.9	
E-6	PNS1C0130541	BRANSTON ST NO.76	CB 111 at HORNBY CB 124 at HORNBY	3,378		710	52	6	6.0	
NA	0010C1570110	BRIGHTON (CB 10)	CB 10	343	2	289	11		6.0	
NA	0013C1570110	BRIGHTON (CB 13)	CB 13	574	2	511	10		6.0	
NA	0018C1570110	BRIGHTON (CB 18)	CB 18	0	2		2			
NA	0002C1570110	BRIGHTON (CB 2)	CB 2		2	1,133	104		6.0	
NA	0007C1570110	BRIGHTON (CB 7)	CB 7	1,270	2	336	130		5.9	
NA	PNS1C1380396	BRISBANE ST S	CB 9 at MILTON CB 19 at MILTON CB 23 at MILTON CB 24 at MILTON	5,041	2	60	720	6	5.4	
B-6	0016C1580058	BROMLEY GXP (CB 16)	CB 16	1,933		1,347	49		6.0	
B-2	0017C1580058	BROMLEY GXP (CB 17)	CB 17	346				1	2.0	
B-5	0008C1580058	BROMLEY GXP (CB 8)	CB 8	2,267		16	95	3	5.4	
NA	0112L0090098	BROOKSIDE (CB 112)	CB 112	56	1	26	21	23	4.9	
NA	0113L0090098	BROOKSIDE (CB 113)	CB 113	356	1	142	43	24	5.5	
NA	0114L0090098	BROOKSIDE (CB 114)	CB 114	290	1	117	70	35	5.2	
NA	0121L0090098	BROOKSIDE (CB 121)	CB 121	222	1	106	59	30	5.3	
NA	0122L0090098	BROOKSIDE (CB 122)	CB 122	473	1	267	79	40	5.5	
NA	0123L0090098	BROOKSIDE (CB 123)	CB 123	318	1	299	76	52	5.5	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
A-1	PNS1C1380216	CASHEL ST NO.46	CB 4 at OXFORD-TUAM CB 22 at OXFORD-TUAM	4,127		363	233	9	5.9	
NA	PNS1C1210067	CASHMERE VIEW ST	CB 5 at HOON HAY CB 9 at HOON HAY CB 25 at HOON HAY	10,420	1	2,355	164	3	5.9	
NA	0672HP160016	CASTLE HILL TRANSPower GXP (CB 672)	CB 672			115	25		5.9	
NA	0692HP160016	CASTLE HILL TRANSPower GXP (CB 692)	CB 692			5	2		6.0	
A-6	PNS1C1180028	CLYDE RD NO.146	CB 8 at FENDALTON CB 15 at FENDALTON	2,637		962	71	1	5.9	
NA	1022CO130026	COLERIDGE TRANSPower GXP (CB 1022)	CB 1022			81	30	1	5.8	
NA	PNS1C1310062	COLOMBO ST WW	CB 6 at MILTON CB 7 at MILTON CB 12 at MILTON CB 20 at MILTON CB 25 at MILTON	7,557	2	4,512	241	4	6.0	
G-6	PNS1C0100580	CURLETTS RD NO.59	CB 4 at MIDDLETON CB 9 at MIDDLETON CB 19 at MIDDLETON	5,235		459	114	5	6.0	
NA	0001C1470104	DALLINGTON (CB 1)	CB 1	2,271	2	1,451	82		6.0	
NA	0010C1470104	DALLINGTON (CB 10)	CB 10	1,736	2	819	31	4	6.0	
NA	0013C1470104	DALLINGTON (CB 13)	CB 13	2,741	2	1,028	50	3	6.0	
NA	0018C1470104	DALLINGTON (CB 18)	CB 18	939	2	230	17	3	5.9	
NA	0004C1470104	DALLINGTON (CB 4)	CB 4	1,739	2	432	36	1	5.9	
NA	0009C1470104	DALLINGTON (CB 9)	CB 9	1,125	2	798	23		6.0	
NA	0111HK100048	DARFIELD (CB 111)	CB 111	1,009	1	564	52	1	1	5.9
NA	0112HK100048	DARFIELD (CB 112)	CB 112	165	1	98	25		9	5.6
NA	0113HK100048	DARFIELD (CB 113)	CB 113	284	1	177	56		16	5.6
NA	0114HK100048	DARFIELD (CB 114)	CB 114	973	1	340	115	1	8	5.8
NA	0115HK100048	DARFIELD (CB 115)	CB 115	435	1	294	31		14	5.8
NA	0111PB040031	DIAMOND HARBOUR (CB 111)	CB 111	111	1	195	11			6.0

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
NA	0112PB040031	DIAMOND HARBOUR (CB 112)	CB 112	180	1	261	31		5.9	
NA	0113PB040031	DIAMOND HARBOUR (CB 113)	CB 113	629	1	610	41		6.0	
NA	0112SE110089	DUNSANDEL (CB 112)	CB 112	30	1	11	7	13	4.8	
NA	0113SE110089	DUNSANDEL (CB 113)	CB 113	319	1				3.0	
NA	0121SE110089	DUNSANDEL (CB 121)	CB 121	20	1	39	24	18	5.2	
NA	0122SE110089	DUNSANDEL (CB 122)	CB 122	302	1				3.0	
A-5	PNS1C1380291	DURHAM ST NO.191	CB 17 at OXFORD-TUAM CB 20 at OXFORD-TUAM	4,141		41	351	2	5.2	
NA	0111PB150082	DUVAUCHELLE (CB 111)	CB 111	1,160	1	1,028	144		5.9	
NA	0121PB150082	DUVAUCHELLE (CB 121)	CB 121	41	1	116	27		5.9	
NA	0122PB150082	DUVAUCHELLE (CB 122)	CB 122	91	1	117	42		5.8	
NA	0123PB150082	DUVAUCHELLE (CB 123)	CB 123	402	1	615	105		5.9	
NA	0124PB150082	DUVAUCHELLE (CB 124)	CB 124	292	1	368	46		5.9	
NA	0125PB150082	DUVAUCHELLE (CB 125)	CB 125	24	1	23	12		5.6	
A-6	0017C1180033	FENDALTON (CB 17)	CB 17	1,085		607	25		5.9	
A-6	0003C1180033	FENDALTON (CB 3)	CB 3	1,549		904	37		6.0	
NA	PNS1C1270047	FIRESTONE	CB 1 at HARRIS CB 2 at HARRIS CB 8 at HARRIS	7,395	2	1,064	85	6	6.0	
B-2	PNS1C1380382	FITZGERALD AV BUS DEPOT	CB 1 at LANCASTER CB 12 at LANCASTER CB 18 at LANCASTER	5,261		861	540	5	5.9	
A-2	PNS1C1280183	FOSTER	CB 2662 at ADDINGTON GXP CB 2702 at ADDINGTON GXP CB 2722 at ADDINGTON GXP CB 2802 at ADDINGTON GXP CB 2842 at ADDINGTON GXP	18,414		2,591	1,023	18	5.9	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
D-1	PNS1C1270077	GRANTS RD NO.44	CB 5 at MCFADDENS CB 8 at MCFADDENS CB 14 at MCFADDENS CB 22 at MCFADDENS	17,938		3,992	504	9	3	5.9	
NA	0111SE020066	GREENDALE (CB 111)	CB 111	112	1	58	28		26	5.2	
NA	0112SE020066	GREENDALE (CB 112)	CB 112	168	1	113	28		15	5.6	
NA	0113SE020066	GREENDALE (CB 113)	CB 113	81	1	14	21		13	4.9	
NA	0114SE020066	GREENDALE (CB 114)	CB 114	93	1	48	18		27	5.2	
D-2	PNS1C1270043	GRIMSEYS-WINTERS	CB 2 at PAPANUI GXP CB 4 at PAPANUI GXP CB 6 at PAPANUI GXP CB 8 at PAPANUI GXP	13,465		5,717	447	12		6.0	
NA	0001C1110056	HALSWELL (CB 1)	CB 1	397	1	247	35			5.9	
NA	0002C1110056	HALSWELL (CB 2)	CB 2	1,428	1	847	44			6.0	
NA	0009C1110056	HALSWELL (CB 9)	CB 9	0	1	58	6			5.9	
NA	PNS1C1110051	HALSWELL RD NO.286	CB 4 at HALSWELL CB 5 at HALSWELL CB 8 at HALSWELL CB 10 at HALSWELL	5,684	1	3,384	210	2	4	5.9	
E-1	0111C0050031	HAREWOOD (CB 111)	CB 111	433				1		1.0	
E-1	0112C0050031	HAREWOOD (CB 112)	CB 112	844				1		1.0	
E-5	0121C0050031	HAREWOOD (CB 121)	CB 121	677		116	92		5	5.5	
E-1	0123C0050031	HAREWOOD (CB 123)	CB 123	2,718		3	38	6		2.9	
NA	0011C1170090	HARRIS (CB 11)	CB 11	1,607	2	819	73			5.9	
NA	0013C1170090	HARRIS (CB 13)	CB 13	761	2	376	20	1		5.9	
NA	0005C1170090	HARRIS (CB 5)	CB 5	902	2	269	7	1		6.0	
NA	0007C1170090	HARRIS (CB 7)	CB 7	1,413	2	758	27			6.0	
F-6	0001C1070087	HAWTHORNDEN (CB 1)	CB 1	1,437		18	1			6.0	
F-6	0013C1070087	HAWTHORNDEN (CB 13)	CB 13	976		172	45			5.9	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
F-6	0017C1070087	HAWTHORNDEN (CB 17)	CB 17	1,305		874	29	1		6.0	
F-6	0018C1070087	HAWTHORNDEN (CB 18)	CB 18	1,221		846	24	1		6.0	
F-2	0019C1070087	HAWTHORNDEN (CB 19)	CB 19	0		19	16			5.0	
F-6	0022C1070087	HAWTHORNDEN (CB 22)	CB 22	895		585	34			6.0	
F-2	0023C1070087	HAWTHORNDEN (CB 23)	CB 23	1,823			29	5		2.8	
F-6	0025C1070087	HAWTHORNDEN (CB 25)	CB 25	1,837		430	31	4		6.0	
F-6	0003C1070087	HAWTHORNDEN (CB 3)	CB 3	599		474	24			6.0	
F-6	0004C1070087	HAWTHORNDEN (CB 4)	CB 4	2,027		728	94	2		6.0	
F-6	0006C1070087	HAWTHORNDEN (CB 6)	CB 6	857		139	67	1		5.7	
F-6	0008C1070087	HAWTHORNDEN (CB 8)	CB 8	1,490		843	33			6.0	
F-6	0009C1070087	HAWTHORNDEN (CB 9)	CB 9	1,947		597	39	2		5.9	
B-5	0010C1510039	HEATHCOTE (CB 10)	CB 10	646		5	21	1		5.3	
B-6	0017C1510039	HEATHCOTE (CB 17)	CB 17	580		177	19	1		6.0	
B-6	0018C1510039	HEATHCOTE (CB 18)	CB 18	887		514	30			5.9	
B-6	0019C1510039	HEATHCOTE (CB 19)	CB 19	1,550		172	77	5		5.9	
B-6	0021C1510039	HEATHCOTE (CB 21)	CB 21	18		465	176			5.9	
B-6	0003C1510039	HEATHCOTE (CB 3)	CB 3			109	50	4		5.8	
B-2	0004C1510039	HEATHCOTE (CB 4)	CB 4			1,087	35			5.9	
B-6	0006C1510039	HEATHCOTE (CB 6)	CB 6	860		437	17			6.0	
A-2	PNS1C1380209	HEREFORD ST GUARDIAN ASS	CB 5 at OXFORD-TUAM CB 6 at OXFORD-TUAM CB 9 at OXFORD-TUAM	6,124		297	398	13		5.8	
NA	0111R0130051	HIGHFIELD (CB 111)	CB 111	28	1	18	12		11	5.0	
NA	0112R0130051	HIGHFIELD (CB 112)	CB 112	70	1	36	16		21	5.1	
NA	0113R0130051	HIGHFIELD (CB 113)	CB 113	123	1	71	32		13	5.4	
NA	0114R0130051	HIGHFIELD (CB 114)	CB 114	219	1	116	50		25	5.4	
NA	0111SO010024	HILLS (CB 111)	CB 111	1,335	1	587	125		4	5.9	
NA	0112SO010024	HILLS (CB 112)	CB 112	198	1	84	46		31	5.3	
NA	0113SO010024	HILLS (CB 113)	CB 113	805	1	491	101	1	40	5.7	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
NA	0114SO010024	HILLS (CB 114)	CB 114	258	1	195	91	53	5.3	
NA	PNS1C1370075	HILLS RD NO.130	CB 3 at DALLINGTON CB 8 at DALLINGTON CB 21 at DALLINGTON	3,709	2	2,334	120	1	6.0	
NA	0010C1210087	HOON HAY (CB 10)	CB 10	1,374	1	733	35	2	6.0	
NA	0017C1210087	HOON HAY (CB 17)	CB 17	1,595	1	1,108	40		6.0	
NA	0019C1210087	HOON HAY (CB 19)	CB 19	800	1	531	24		5.9	
NA	0021C1210087	HOON HAY (CB 21)	CB 21	849	1	585	18		6.0	
NA	0004C1210087	HOON HAY (CB 4)	CB 4	809	1	558	26		5.9	
E-6	0112C0130094	HORNBY (CB 112)	CB 112	2,224		236	4	5	6.0	
E-5	0113C0130094	HORNBY (CB 113)	CB 113	1,378		2	37	2	5.0	
E-5	0114C0130094	HORNBY (CB 114)	CB 114	1,355			75	2	4.9	
E-1	0121C0130094	HORNBY (CB 121)	CB 121	1,996		487	142	3	6.0	
E-6	0123C0130094	HORNBY (CB 123)	CB 123	1,351		36	46	3	5.6	
NA	0111HK130023	HORORATA (CB 111)	CB 111	181	1	43	21	9	5.4	
NA	0112HK130023	HORORATA (CB 112)	CB 112	884	1	600	118	1	4	5.8
NA	0113HK130023	HORORATA (CB 113)	CB 113	612	1	228	91	12	5.6	
NA	0114HK130023	HORORATA (CB 114)	CB 114	90	1	26	16	19	5.0	
F-6	0013C1180165	ILAM (CB 13)	CB 13	1,342		349	20	1	6.0	
F-6	0003C1180165	ILAM (CB 3)	CB 3	881		345	39		6.0	
NA	0111SE120053	KILLINCHY (CB 111)	CB 111	127	1	26	13	12	5.2	
NA	0112SE120053	KILLINCHY (CB 112)	CB 112	216	1	66	41	36	5.1	
NA	0113SE120053	KILLINCHY (CB 113)	CB 113	129	1	40	22	1	20	5.1
NA	0114SE120053	KILLINCHY (CB 114)	CB 114	274	1	42	20	2	16	5.3
A-6	0011C1380039	KNOX (CB 11)	CB 11	1,723		636	145	1	6.0	
A-6	0012C1380039	KNOX (CB 12)	CB 12	1,626		688	36		6.0	
A-6	0014C1380039	KNOX (CB 14)	CB 14	338		116	38	1	5.9	
A-6	0018C1380039	KNOX (CB 18)	CB 18	713		421	49		6.0	
A-6	0006C1380039	KNOX (CB 6)	CB 6	805		80	76	1	5.8	
B-5	0010C1380436	LANCASTER (CB 10)	CB 10			2	66		5.2	
B-6	0024C1380436	LANCASTER (CB 24)	CB 24	1,720		544	166	1	6.0	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
B-5	0003C1380436	LANCASTER (CB 3)	CB 3			2	45			4.7	
B-6	0006C1380436	LANCASTER (CB 6)	CB 6	380		45	37	1		5.8	
B-6	0008C1380436	LANCASTER (CB 8)	CB 8	1,583		90	250			5.7	
NA	0112R0150258	LARCOMB (CB 112)	CB 112	199	1	85	40	1	5	5.6	
NA	0113R0150258	LARCOMB (CB 113)	CB 113	199	1	295	18		1	5.9	
NA	0114R0150258	LARCOMB (CB 114)	CB 114	199	1	6	4			5.4	
NA	0121R0150258	LARCOMB (CB 121)	CB 121	199	1	66	53	2		5.8	
NA	0122R0150258	LARCOMB (CB 122)	CB 122	199	1	79	15		3	5.7	
NA	0111HA050192	LINCOLN (CB 111)	CB 111	975	1	557	24			6.0	
NA	0112HA050192	LINCOLN (CB 112)	CB 112	560	1	153	66		20	5.4	
NA	0121HA050192	LINCOLN (CB 121)	CB 121	1,816	1	349	53	2	1	5.9	
NA	0122HA050192	LINCOLN (CB 122)	CB 122	923	1	429	144		13	5.6	
NA	0123HA050192	LINCOLN (CB 123)	CB 123	1,058	1	607	106		43	5.7	
NA	0111PB130066	LITTLE RIVER (CB 111)	CB 111	250	1	72	25			5.8	
NA	0112PB130066	LITTLE RIVER (CB 112)	CB 112	337	1	217	75			5.8	
B-5	PNS1C1580036	MACES RD BUCHANANS	CB 3 at BROMLEY GXP CB 9 at BROMLEY GXP	3,100		2	113	6		5.1	
B-6	PNS1C1410065	MAUNSELL ST E	CB 8 at HEATHCOTE CB 9 at HEATHCOTE CB 15 at HEATHCOTE	5,534		2,115	443	5		5.9	
NA	PNS1C1210097	MAVIN RD S	CB 6 at HOON HAY CB 15 at HOON HAY	1,529	1	1,058	48			6.0	
NA	0010C1270149	MCFADDENS (CB 10)	CB 10	2,021	1	1,293	82	1		6.0	
NA	0016C1270149	MCFADDENS (CB 16)	CB 16	748	1	404	42			6.0	
NA	0002C1270149	MCFADDENS (CB 2)	CB 2	1,200	1	622	22	1		5.9	
NA	0021C1270149	MCFADDENS (CB 21)	CB 21	73	1	21	8			6.0	
NA	0024C1270149	MCFADDENS (CB 24)	CB 24	1,175	1	632	40			6.0	
NA	0004C1270149	MCFADDENS (CB 4)	CB 4	1,884	1	584	75	2		6.0	
NA	0006C1270149	MCFADDENS (CB 6)	CB 6	734	1	553	22			6.0	
F-6	PNS1C1070078	MERRIN ST NO.51	CB 10 at HAWTHORNDEN CB 21 at	2,194		1,302	48	1		6.0	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
			HAWTHORNDEN								
G-5	0001C0100612	MIDDLETON (CB 1)	CB 1	2,452		13	176	4		5.4	
G-5	0010C0100612	MIDDLETON (CB 10)	CB 10	936		2	52			5.2	
G-6	0014C0100612	MIDDLETON (CB 14)	CB 14	1,618		436	27	2		5.9	
G-6	0015C0100612	MIDDLETON (CB 15)	CB 15	1,936		372	23	2		6.0	
G-6	0016C0100612	MIDDLETON (CB 16)	CB 16	1,769		3	66	4		5.8	
G-6	0018C0100612	MIDDLETON (CB 18)	CB 18	1,676		107	189	1		5.8	
G-5	0002C0100612	MIDDLETON (CB 2)	CB 2	2,509		11	175	6		5.1	
G-6	0007C0100612	MIDDLETON (CB 7)	CB 7	929		6	60	2		5.6	
NA	0010C1310007	MILTON (CB 10)	CB 10	1,838	2	165	99	3		5.9	
NA	0016C1310007	MILTON (CB 16)	CB 16	1,058	2	632	91			6.0	
NA	0018C1310007	MILTON (CB 18)	CB 18	1,972	2	1,379	81			6.0	
NA	0002C1310007	MILTON (CB 2)	CB 2	292	2	216	33			6.0	
NA	0028C1310007	MILTON (CB 28)	CB 28	1,619	2	529	76	1		6.0	
NA	0005C1310007	MILTON (CB 5)	CB 5	331	2	208	47	1		6.0	
E-6	0111C0090162	MOFFETT (CB 111)	CB 111	1,045		201	2	1		6.0	
E-6	0112C0090162	MOFFETT (CB 112)	CB 112	2,453		337	41	3		6.0	
E-6	0113C0090162	MOFFETT (CB 113)	CB 113	2,448		41	60	4		5.7	
E-6	0114C0090162	MOFFETT (CB 114)	CB 114	541		91	32			5.7	
E-6	0115C0090162	MOFFETT (CB 115)	CB 115	352		48	4	2		6.0	
E-2	0123C0090162	MOFFETT (CB 123)	CB 123	2,478		206	53	6		5.9	
E-6	0124C0090162	MOFFETT (CB 124)	CB 124	1,122		799	13			5.9	
E-6	0125C0090162	MOFFETT (CB 125)	CB 125	1,736		169	52	4	2	5.7	
E-6	0126C0090162	MOFFETT (CB 126)	CB 126	1,067		732	41			6.0	
NA	0011C1380295	MONTREAL (CB 11)	CB 11	878	1		68			4.2	
NA	0014C1380295	MONTREAL (CB 14)	CB 14	2,018	1	834	161	2		6.0	
NA	0016C1380295	MONTREAL (CB 16)	CB 16	314	1			2			
NA	0017C1380295	MONTREAL (CB 17)	CB 17	1,334	1	6	78	1		5.4	
NA	0003C1380295	MONTREAL (CB 3)	CB 3	36	1	16	40			5.8	
NA	0005C1380295	MONTREAL (CB 5)	CB 5	781	1	2	53			5.4	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected
NA	0008C1380295	MONTREAL (CB 8)	CB 8	1,265	1	4	63	1	4.7	
NA	0111HA140030	MOTUKARARA (CB 111)	CB 111	218	1	205	59	4	5.8	
NA	0112HA140030	MOTUKARARA (CB 112)	CB 112	135	1	82	34	15	5.4	
NA	0113HA140030	MOTUKARARA (CB 113)	CB 113	71	1	65	26	2	5.7	
NA	0114HA140030	MOTUKARARA (CB 114)	CB 114	0	1	21	11	2	5.5	
NA	PNS1C1470081	NEW BRIGHTON RD NO.111	CB 5 at DALLINGTON CB 11 at DALLINGTON CB 17 at DALLINGTON CB 19 at DALLINGTON CB 25 at DALLINGTON	7,920	2	5,028	293	3	2	6.0
A-1	PNS1C1280007	OFFICE RD W	CB 4 at FENDALTON CB 13 at FENDALTON	2,944		1,129	57	1	6.0	
A-6	PNS1C1380088	OXFORD TR NO.228	CB 6A at ARMAGH CB 11A at ARMAGH	4,273		104	290	12	5.6	
A-5	0014C1380260	OXFORD-TUAM (CB 14)	CB 14	1,374		7	163	1	4.8	
A-6	0018C1380260	OXFORD-TUAM (CB 18)	CB 18	1,663		105	132	3	5.9	
A-1	0008C1380260	OXFORD-TUAM (CB 8)	CB 8	1,462				1	1.0	
NA	0014C1480042	PAGES-KEARNEYS (CB 14)	CB 14	766	1	401	18	1	6.0	
NA	0017C1480042	PAGES-KEARNEYS (CB 17)	CB 17	172	1	84	22		6.0	
NA	0009C1480042	PAGES-KEARNEYS (CB 9)	CB 9	883	1	627	20		6.0	
NA	PNS1C1570059	PALMERS RD NO.193	CB 5 at BRIGHTON CB 9 at BRIGHTON CB 12 at BRIGHTON CB 19 at BRIGHTON CB 20 at BRIGHTON	10,976	2	7,062	381	3	6.0	
NA	0001C1170032	PAPANUI GXP (CB 1)	CB 1	3,166	1	1,454	159		5.9	
A-6	PNS1C1380516	PETERBOROUGH ST NO.100	CB 4 at KNOX CB 21 at KNOX	1,921		89	160	2	5.7	
B-2	PNS1C1410014	PORTMAN	CB 1 at BROMLEY GXP CB 2 at BROMLEY GXP CB 4 at BROMLEY GXP CB 15 at BROMLEY GXP	8,388		2,137	438	14	5.9	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
A-5	PNS1C1380188	PRESS LN	CB 7B at ARMAGH CB 8B at ARMAGH	1,895		7	190	5		4.7	
B-6	PNS1C1480121	RANDOLPH ST S	CB 2 at LANCASTER CB 13 at LANCASTER	4,623		2,519	193	6		6.0	
NA	0111L0030133	ROLLESTON (CB 111)	CB 111	1,616	1	366	23	2	1	5.9	
NA	0112L0030133	ROLLESTON (CB 112)	CB 112	152	1			1		3.0	
NA	0113L0030133	ROLLESTON (CB 113)	CB 113	2,542	1	808	61	5		5.9	
NA	0121L0030133	ROLLESTON (CB 121)	CB 121	944	1	125	28	3	14	5.6	
NA	0122L0030133	ROLLESTON (CB 122)	CB 122	1,369	1	946	10			6.0	
NA	0123L0030133	ROLLESTON (CB 123)	CB 123	1,074	1	614	78		38	5.7	
NA	0112C0130397	SHANDS (CB 112)	CB 112	827				1			
E-6	0113C0130397	SHANDS (CB 113)	CB 113	1,463		628	65	2	3	5.9	
E-6	0114C0130397	SHANDS (CB 114)	CB 114	928		286	50	2	4	5.8	
E-6	0115C0130397	SHANDS (CB 115)	CB 115	1,283		2	23	3		5.7	
NA	0121C0130397	SHANDS (CB 121)	CB 121	751				1			
E-6	0122C0130397	SHANDS (CB 122)	CB 122	816		4	42	2		5.7	
E-6	0123C0130397	SHANDS (CB 123)	CB 123	1,300		2	46	4		6.0	
E-2	0124C0130397	SHANDS (CB 124)	CB 124	1,697		821	81	1	4	5.9	
B-2	PNS1C1520022	SIMEON	CB 1 at HEATHCOTE CB 13 at HEATHCOTE CB 23 at HEATHCOTE	5,483		1,379	248	5		5.9	
E-5	0111C0100611	SOCKBURN (CB 111)	CB 111	0			25	1		5.0	
E-6	0112C0100611	SOCKBURN (CB 112)	CB 112	1,339		390	28	3		6.0	
E-6	0113C0100611	SOCKBURN (CB 113)	CB 113	259		7	37			5.5	
E-6	0114C0100611	SOCKBURN (CB 114)	CB 114	3,598		129	215	1		5.9	
E-6	0122C0100611	SOCKBURN (CB 122)	CB 122	19		499	83	3		5.9	
E-6	0123C0100611	SOCKBURN (CB 123)	CB 123	28		704	59	3		6.0	
E-6	0124C0100611	SOCKBURN (CB 124)	CB 124	16		26	106	1		5.7	
E-5	0131C0100611	SOCKBURN (CB 131)	CB 131	425			37	5		5.0	
E-6	0132C0100611	SOCKBURN (CB 132)	CB 132	971		4	56	3		5.6	
E-6	0133C0100611	SOCKBURN (CB 133)	CB 133	1,378		148	44	1		6.0	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)			Average Priority	Key Customers Affected	
E-6	0134C0100611	SOCKBURN (CB 134)	CB 134	0		1,095	29	1	1	6.0	
NA	PNS1C1210140	SPREYDON	CB 4 at ADDINGTON GXP CB 5 at ADDINGTON GXP CB 6 at ADDINGTON GXP CB 8 at ADDINGTON GXP CB 9 at ADDINGTON GXP	14,530	1	3,542	341	7		5.9	
A-1	PNS1C1380018	SPRINGFIELD RD NO.56	CB 2 at KNOX CB 9 at KNOX	1,996		820	81	2		5.9	
NA	0111L0080155	SPRINGSTON (CB 111)	CB 111	317	1	233	56		28	5.5	
NA	0112L0080155	SPRINGSTON (CB 112)	CB 112	500	1	305	64		24	5.7	
NA	0113L0080155	SPRINGSTON (CB 113)	CB 113	716	1	339	87		21	5.7	
NA	0114L0080155	SPRINGSTON (CB 114)	CB 114	337	1	155	46	1	25	5.4	
NA	0115L0080155	SPRINGSTON (CB 115)	CB 115	1,179	1	13	3	2		5.6	
NA	PNS1C1370090	ST ALBANS ST NO.145	CB 9 at MCFADDENS CB 17 at MCFADDENS CB 18 at MCFADDENS CB 20 at MCFADDENS	8,389	1	4,103	349	8		6.0	
A-6	PNS1C1280064	STRAVEN RD NO.103	CB 7 at FENDALTON CB 12 at FENDALTON	3,391		1,195	131	1		5.9	
A-5	PNS1C1380258	STRUTHERS LN	CB 10 at OXFORD-TUAM CB 16 at OXFORD-TUAM CB 21 at OXFORD-TUAM	4,918		28	427	6		5.3	
NA	0112HL060017	TE PIRITA (CB 112)	CB 112	46	1	16	11		11	5.0	
NA	0113HL060017	TE PIRITA (CB 113)	CB 113	181	1	19	11		15	5.0	
NA	0114HL060017	TE PIRITA (CB 114)	CB 114	99	1	41	26		19	5.1	
NA	0115HL060017	TE PIRITA (CB 115)	CB 115	180	1	15	11		11	4.8	
NA	0111HA080038	TEDDINGTON (CB 111)	CB 111	853	1	475	61	1		5.9	
NA	0112HA080038	TEDDINGTON (CB 112)	CB 112	5	1	16	9			5.7	

Rolling Outage Timetable (area-priority)	Rolling Outage Feeder ID	Rolling Outage Feeder Name	Indicative Switching Required	Load per hour (kWh)	AUFULS block	Connection count (residential / business / major / irrigation)				Average Priority	Key Customers Affected
F-6	PNS1C1080052	TOORAK AV N	CB 5 at HAWTHORNDEN CB 15 at HAWTHORNDEN	2,075		1,492	83			6.0	
A-6	PNS1C1180066	TOTARA ST	CB 2 at FENDALTON CB 6 at FENDALTON CB 19 at FENDALTON	4,750		1,335	121	7		5.9	
B-6	PNS1C1480088	TUAM ST NO.544	CB 11 at BROMLEY GXP CB 13 at BROMLEY GXP CB 14 at BROMLEY GXP CB 18 at BROMLEY GXP	7,712		4,087	219	5		6.0	
F-6	PNS1C1180090	WAIMAIRI RD NO.10	CB 5 at ILAM CB 10 at ILAM	3,329		1,128	162	2		5.9	
A-6	PNS1C1270107	WAIRAKEI RD NO.89	CB 9 at FENDALTON CB 14 at FENDALTON	2,902		1,557	90	3		6.0	
NA	PNS1C1310021	WALTHAM RD PDL	CB 4 at MILTON CB 11 at MILTON CB 21 at MILTON	5,141	2	1,979	407	3		6.0	
B-5	PNS1C1380483	WASHINGTON WAY NO.18	CB 19 at LANCASTER CB 22 at LANCASTER	2,908		16	129	5		4.9	
NA	0121R0150174	WEEDONS (CB 121)	CB 121	1,061	1	569	130		22	5.7	
NA	0122R0150174	WEEDONS (CB 122)	CB 122	465	1	264	68		14	5.7	
NA	0123R0150174	WEEDONS (CB 123)	CB 123	564	1	179	50	1	3	5.7	
NA	0124R0150174	WEEDONS (CB 124)	CB 124	759	1	429	106		10	5.7	
NA	PNS1C1110012	WEST WATSON AV W	CB 3 at HOON HAY CB 8 at HOON HAY CB 22 at HOON HAY	2,910	1	1,627	96	1		6.0	
NA	PNS1C1480051	WOODHAM RD NO.271	CB 6 at PAGES-KEARNEYS CB 12 at PAGES-KEARNEYS CB 15 at PAGES-KEARNEYS	6,685	1	3,476	232	2		6.0	

22. APPENDIX C – DRAFT ROLLING OUTAGE PUBLIC NOTICE

Electricity Supply Interruptions

Please read - your supply may be affected

Orion is being required to reduce electricity consumption with rolling power outages across Christchurch and central Canterbury to meet a 5% savings target set by the Electricity Commission in response to the current energy crisis.

Voluntary savings have already helped us reduce the impact of rolling outages, and further savings may allow us to reduce these planned cuts further.

Outages will occur within the time periods noted in the schedule below. Wherever possible, we will delay cuts and restore power early, **so please treat all lines as live**.

Within each area we have prioritised individual circuits to minimise the cost and disruption to our community, and timed outages accordingly. To find out the priority group of the circuit for your connection, you can enter your ICP number (from your power account) in the *connection details search* screen on our website (oriongroup.co.nz), or call your electricity retailer.

YOUR SAFETY AND PROTECTION

It is important to ensure you keep safe around electricity even when it is off.

- Power may be restored at any time.
- Please leave all appliances off during power cuts, particularly ovens and cook tops.
- To prevent damage to computers and other electrical equipment turn power off at the wall prior to outages.

Are you reliant on power ... If your health may be affected by these outages you will need to make alternative arrangements, or contact your health care provider for assistance. Please note that telephones that rely on a mains supply may not operate during outages, so plan in advance.

Traffic lights will be affected by these outages, so please avoid travelling in the affected areas if possible. Avoid using lifts.

Areas	Priority Group	Monday 4 July 2011	Tuesday 5 July 2011	Wednesday 6 July 2011	Thursday 7 July 2011	Friday 8 July 2011
A (Addington) B (Bromley)	6	8am - 12pm	8am - 12pm	1pm - 5pm	1pm - 5pm	
C (Hororata/Springston)	5	9am - 12pm		1pm - 4pm		
D (Papanui) E (Islington 33)	6	1pm - 5pm	1pm - 5pm		8am - 12pm	8am - 12pm
F (Islington 66) G (Middleton)	5		1pm - 4pm		9am - 12pm	

Connections in priority groups other than those listed (and those with a "reserved" priority) are not scheduled for rolling outages in this period.

23. APPENDIX D – MAJOR OUTAGE COMMUNICATION PLAN