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1. PURPOSE OF THIS DOCUMENT

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

Under the regulations, participant outage plans (POP) are required to specify the actions that would be taken to reduce the consumption of electricity to:

- reduce electricity consumption when a supply shortage is declared 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 subsequent amendments; and
- supplement the Electricity Commission's Security of Supply Outage Plan.


Reducing demand by disconnecting supply to consumers would be a last resort after all other forms of savings, including voluntary savings, had been employed. Marlborough Lines will always endeavour to keep consumers supplied. Marlborough Lines will only disconnect consumers when directed to by the Electricity Commission.

The procedures outlined are in response to major generation shortages including dry year scenarios. 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. DEFINITIONS

AUFLS	Automatic Under Frequency Load Shedding.
Commission	Electricity Commission.
EDN	Electrical Distribution Network.
Electricity	Act Electricity Act 1992 and subsequent amendments.
Feeder	A high voltage circuit typically supplying up to 2000 consumers.
GXP	Transpower Grid Exit Point.
GEN	Grid Emergency Notice.
POP	Participant Outage Plan (this plan).

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Regulations	Electricity Governance (Security of Supply) Regulations 2008 and subsequent amendments.
Retailers	Electricity Retail Companies.
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.
SOSOP	Security of Supply Outage Plan (Electricity Commission).
Supply Shortage Declaration	Declaration made by the Electricity Commission under Regulation 9.
System Operator	Operator of the national electricity transmission grid.

2.1 Associated Quality Procedures

ISO PR805	Planned Outage Data Processing
EP 202	Communication with Customers during Outages
EP 1.2	Emergency Load Shedding and Restoration.
EP 1.5	Historical Record of Network Feeder Seasonal Loadings etc.

3. BACKGROUND


3.1 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.

3.2 Transpower

Transpower is a State Owned Enterprise, which owns and operates New Zealand's National Grid - the network of high voltage transmission lines and substations that transports electricity from where it is generated to distribution line companies, such as Marlborough Lines through the Grid Exit Point (GXP) located at Blenheim.

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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.

3.3 Marlborough Lines

Marlborough Lines is the electricity network company that owns and maintains the electricity lines, cables and substations that deliver electricity to consumers in the Marlborough region.

4. SUPPLY AND DEMAND

Transpower, as the System Operator, controls the transmission network to match generation with consumer demand. Constraints on the ability to manage this may be caused by:

- low lake levels reducing hydro generation;
- failure of a large generator; and
- a fault on critical transmission circuit.

The first two causes above could lead to an energy shortage, while the third could lead to a shortage of transmission capacity.

4.1 Load Reduction by Marlborough Lines

Marlborough Lines has some ability to reduce load by turning off domestic water heaters via ripple control in the Marlborough region. This will be the first load reduction method and will be applied to all customers on a controlled hot water tariff. This control is likely to be longer than 12 hours per day. Further load reductions would require disconnecting consumers.

4.2 Range of Events


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

Developing Event:	Events that evolve over time, for example low hydro lake levels.
Immediate Event:	Events that occur with little or no warning, usually as a result of a transmission line or major generation failure.

4.3 Significant Incident

Either event will be classed by Marlborough Lines as a significant incident and the Network Operations Manager will assemble a team of senior managers and staff to manage the incident.

Communication with retailers will be as per normal notification procedures described in ISO PR806 Planned Outage Data Processing.

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Local Authorities, civil defence and other stakeholders will be notified of significant events by the Customer Services Manager.

5. ACTIONS FOR IMMEDIATE EVENTS

Transpower, as the System Operator, is required to keep enough reserve generation to cover the risk of the largest connected generator tripping (or HVDC link failure). They are also required to keep the system frequency at 50Hz. 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 complete failure of the electricity network.

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 the load. Automatic load shedding groups reduce load in stages until the frequency stabilises.

5.1 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. Marlborough Lines does not presently participate in this market.

5.2 Disconnecting Customers

5.2.1 Automatic Under Frequency Load Shedding (AUFLS)


Each distribution network company must have available at all times two blocks of load, each of 16% of its total load at the time to be shed by automatic under frequency relays. In the South Island Transpower has installed these relays on selected 33kV feeders at the GXPs and the total load at the selected Marlborough Lines zone substations is disconnected when Transpower trip those 33kV feeders.

5.2.2 AUFLS Zone 1

If system frequency fails to recover after Reserve market load shed, AUFLS Zone 1 shedding by Transpower will occur. This will disconnect up to 16% of Marlborough Lines' load by disconnecting customers supply on two 33kV feeders, No.s 2022 and 2032.

5.2.3 AUFLS Zone 2

If Zone 1 tripping fails to restore frequency, the next stage, Zone 2 activates. Transpower would disconnect a further 16% of Marlborough Lines' load on two further 33kV feeders, No.s 2052 and 2162.

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5.2.4 Manual Load Shedding

If AUFLS Zone 1 and Zone 2 tripping fails to stabilise frequency the System Operator will shed more load. By this time there will only be three further 33kV feeders available to be shed. Of Marlborough Lines' 14 zone substations, 8.5 of them are currently connected to AUFLS and 26 of the company's 52 11kV feeders are connected to those zone substations. Once the frequency has stabilised the System Operator will advise the Marlborough Lines Network Operations Manager when load can be restored.

5.3 Supply Restoration

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

5.4 Electricity Commission Declaration

For some immediate events, the Electricity Commission may declare that rolling outages are required to be implemented. In such a situation, the procedures for **developing** events will need to be implemented as per section 6 and 7.

5.5 Transmission Grid Emergency

The System Operator may request Marlborough Lines to reduce load under a Grid Emergency Notice (GEN). Marlborough Lines would shed any water heating load not already off and then if necessary shed feeders as per Emergency Load Shedding & Restoration procedure EP 1.2.


If an **immediate** event is in place, the grid emergency will take precedence.

6. DEVELOPING EVENTS

If the Commission requests through the System Operator a load reduction for a **developing** event, Marlborough Lines would reduce demand to meet the Commission's targets. The targets are expected to be a weekly energy savings target that is reviewed each week. To reduce energy usage Marlborough Lines would disconnect HV feeders (rolling outages) in a controlled manner to enable targets to be reached. There may be financial penalties for not meeting the targets specified by the Commission. The shedding of water heating load is not a viable option for energy savings as this only defers usage and would not save energy.

6.1 Declaration of a Developing Event

The Commission will endeavour to provide nine days prior notice of the requirement for weekly energy savings. It is Marlborough Lines' plan to use the standard planned outage notification procedure to retailers as detailed in ISO PR805 Planned Outage Data Processing. Any increase in the weekly energy savings target would also need nine days prior notice.

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If the Commission declares a supply shortage and directs rolling outages, it will request through the System Operator that a specific weekly energy savings target was to be enforced for a specific region for a specified time-frame. A notification system similar to the GEN procedure would be appropriate.

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

6.2 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 feeders to be included in rolling outages.


Priority	Priority Concern	Maintain Supply to:
1	Public health and safety	Major hospital, Civil Defence, major CBD areas, major Police stations
2	Important public services – major employers, major businesses	Ferry terminal, Airport, Cell sites, major supermarkets, major sewer and water pumping, RNZAF, Safe Air, Talleys, Nelson Forest Sawmill, Flight Timber, Mega Store
3	Public health and safety	Schools, medical centres, generation sites, salt and wine harvest periods
4	Domestic production	Commercial and industrial areas, public rest homes, dairy farm areas, cool stores, wineries (non-harvest), industrial areas.
5	Disruption to customers – some non-domestic	Mainly domestic – some non-domestic but not major businesses
6	Disruption to consumers – little non-domestic	mainly domestic

Table 1 - Priority Loads

These priorities are intended as guidelines, and because rolling outages will be implemented on a feeder by feeder basis, it is not possible to discriminate between individual consumers on the same feeder. For example, a predominantly residential feeder may also have small pockets of commercial or industrial consumers.

6.3 AUFLS Criteria

Currently, the same criteria for rolling outages as shown in Table 1 are also used to select 33kV feeders (zone substations) for AUFLS tripping. Thus, AUFLS load blocks are predominantly from lower priority load categories however some higher priority consumers would also be affected.

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As the load levels reduce, some of the feeders with AUFLS connected can be used while still maintaining the 16% and 32% AUFLS shedding criteria.

To minimise the effect of AUFLS exclusion during rolling outages, the shifting of AUFLS to high priority zone substations will be considered. When a **developing** event is declared, then Transpower could be requested to change the AUFLS blocks to alternative feeders. It is considered prudent to consider exposing high priority consumers to a low probability short term event, such as AUFLS, rather than have them included in rolling outages.

If it is not possible to change the AUFLS blocks in the timeframe to implement rolling outages, it will be necessary to include some high priority feeders in the rolling outages, especially for higher saving targets.

6.4 Shutdown Notification

When requested to reduce demand with rolling outages, Marlborough Lines plans to use the planned outage procedure as per ISO PR805 Planned Outage Data Processing to advise retailers in advance, of pending outages. The time and extent of advertised outages will be approximate.

6.5 Vulnerable consumers and Priority Sites

Marlborough Lines will endeavour to give retailers as much advance notice as possible of pending rolling outages to enable them to notify vulnerable consumers.

6.6 Grid Emergency during a Developing Event

If the System Operator declares a grid emergency during a **developing** event, the grid emergency will take priority. If water heating load has not all been shed then the remainder will be shed. The rolling outage feeders may have to be increased or rearranged to comply with the grid emergency. After the grid emergency is over, the rolling outages pattern would continue.

6.7 Supply Restoration


Disconnected load must be restored in conjunction with the System Operator. This is to prevent overloading the transmission network and creating instability. The System Operator has advised that load changes of less than 25 MW in any five minutes may be implemented by a network without their prior approval.

6.8 Communication

Marlborough Lines will keep media and consumers informed of planned interruptions to supply before and during the outages. Media will be informed as per Marlborough Lines' standard communications procedure, and the retailers will be responsible for planned shutdown consumer notification.

6.8.1 Communication with System Operator

All communications with the System Operator will be using Transpower's Regional Control South phone number.

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Prior to notifying and implementing rolling outages, Marlborough Lines will consult with the System Operator to establish a process for load shedding and restoration.

6.9 *Marlborough Lines* Staff Responsibilities

Role	<i>Marlborough Lines</i> Person Responsible
Receive communication from Commission	Network Operations Manager
Receive communication from System Operator	Network Operations Manager
Implement this plan	Network Operations Manager
Weekly savings reporting	GIS Operator/Payroll/Records Clerk
Retailer notification	Customer Services Manager

Role	<i>Marlborough Lines</i> Person Responsible
Revoking rolling outages	Network Operations Manager
Reporting to Electricity Commission	Network Operations Manager
Reporting to media, public agencies	Customer Services Manager

Table 2- Marlborough Lines Staff Responsibilities

Within one day of the Commission declaring a supply shortage the Network Operations Manager will notify the Commission of the updated contact details including telephone numbers and email address for each of the positions named in Table 2.

6.10 Communication with the Commission


The Commission can contact Marlborough Lines using the following details:

Normal Work Hours	Outside Work Hours
Marlborough Lines Limited	Marlborough Lines Limited
Fax 03 579 3806	Phone 03 5777007
Phone 03 5777007	
PO Box 144	
Blenheim 7240	

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

Electricity Commission

Phone 04 460 8860 Fax 04 460 8879
 PO Box 10041
 Level 7, ASB Bank Building, 2 Hunter Street, Wellington

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6.11 Rolling Outages Strategy and Methodology

The Network Operations Manager and the Customer Services Manager together with the Control Room Managers will review weekly targets and prepare plans for weekly rolling outages based on savings required. The plans will be forwarded to the retailers for consumer and media notification. Rolling outages will wherever possible disconnect feeders using priority listed in Table 1.

PLANNED ENERGY SAVINGS WILL BE BASED UPON NETWORK ENERGY USAGE FOR SAME PERIOD LAST YEAR.

6.12 Target Monitoring

For load shedding to a weekly target, the GIS Operator/Payroll/Records Clerk will monitor energy savings against target and, together with the Network Operations Manager, review future load shedding to increase or decrease the amount of rolling outages to enable the weekly target to be met. The GIS Operator/Payroll/Records Clerk will be responsible for daily and weekly reporting of consumption relative to target levels to both the Commission and System Operator. The GIS Operator/Payroll/Records Clerk will also be responsible for providing the predicted load for the next week on a seven day rolling basis. This prediction is to be by the Blenheim GXP for each half-hour.

6.13 Log of Rolling Outages

Control Room Managers will log times of disconnection and reconnection of all feeder interruptions and enter them in the log. The log sheet to be used by the Control Room Managers is shown in Appendix 1. These will be used to monitor the rolling outage program.


7. ROLLING OUTAGES

When instructed by the System Operator, following a supply shortage declaration, to reduce demand, rolling outages will be instigated by Network Operations Manager as per this plan and outage strategy. The Control Room Managers will ensure load shedding schedules are prepared, operator rosters are adjusted as required, and load is controlled and monitored to meet desired targets. Schedules of daily week ahead forecasts of estimated load shedding, restoration times and quantities will be provided to the security coordinator (at the System Operator) and variations of +/- 20% will be advised to the System Operator.

Where possible, Marlborough Lines will try to comply with priorities in Table 1 to select feeders for rolling outages. Marlborough Lines will endeavour to keep rolling outages to any consumer no longer than 4 hours per day for a 5% savings target. For savings more than 5% longer and more frequent outages may be necessary.

Outages will be programmed between 0800 and 1800 on all days. Night time is excluded from the cut period for safety reasons. Initially outages will be scheduled for mid-afternoon to limit the economic effects.

Timing of outages will be approximate and could vary daily due to network or System Operator constraints.

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The feeder loadings in each priority feeder were calculated as a percentage of the total Network loading in each of the seasonal quarters by

- 24 Hour average

These values are shown in table 3 below.

Table 3 – 24 Hour Average Feeder % of MLL Network Average Load in Each Seasonal Quarter

MLL NETWORK AVERAGE LOAD	Priority	41.4 MW	45.3 MW	45.6 MW	38.6 MW
		6	7.5	5.6	6.0
3 Monthly Seasonal Quarter	5	11.6	12.0	14.7	12.6
	4	25.2	5.2	18.2	20.1
	3	9.2	32.8	13.0	11.3
	2	31.9	30.8	32.6	33.3
	1	14.2	13.7	16.1	15.7
			December January February	March April May	June July August

With the change in priority from 4 to 3 for those areas with significant winery production during the March, April and May quarter, it is considered prudent to identify the level of feeder shedding necessary during each of the four quarters. These are shown as:

<i>Summer</i> (December, January, February)	tables 4-8
<i>Autumn</i> (March, April, May)	tables 9-13
<i>Winter</i> (June, July, August)	tables 14-18
<i>Spring</i> (September, October, November)	tables 19-23

By knowing the feeder priority (1-6) loadings as a percentage of the total network load, the level of shedding required is simply a ratio of feeder % of MLL network average load times (hours off per week over 24 x 7) for each priority.

SUMMER

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Summer Energy	Expected Energy Savings
1			14.2%	0.0%
2			31.9%	0.0%
3			9.2%	0.0%
4	1.73	7	25.2%	1.82%
5	4	7	11.6%	1.93%
6	4	7	7.5%	1.25%
TOTAL				5.0%

Table 4 Feeder Outage Requirements for 5% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Summer Energy	Expected Energy Savings
1			14.2%	0.0%
2			31.9%	0.0%
3			9.2%	0.0%
4	4.38	7	25.2%	4.6%
5	8	7	11.6%	2.9%
6	8	7	7.5%	2.5%
TOTAL				10.0%

Table 5 Feeder Outage Requirements for 10% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Summer Energy	Expected Energy Savings
1			14.2%	0.0%
2			31.9%	0.0%
3			9.2%	0.0%
4	7.17	7	25.2%	7.53%
5	9	7	11.6%	4.35%
6	10	7	7.5%	3.12%
TOTAL				15.0%

Table 6 Feeder Outage Requirements for 15% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Summer Energy	Expected Energy Savings
1			14.2%	0.0%
2			31.9%	0.0%
3	4.04	7	9.2%	1.55%
4	10	7	25.2%	10.5%
5	10	7	11.6%	4.83%
6	10	7	7.5%	3.12%
TOTAL				20.0%

Table 7 Feeder Outage Requirements for 20% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Summer Energy	Expected Energy Savings
1			14.2%	0.0%
2 Part	11	7	31.9%	0.47%
3	11	7	9.2%	4.22%
4	11	7	25.2%	11.55%
5	11	7	11.6%	5.32%
6	11	7	7.5%	3.44%
TOTAL				25.0%

Table 8 Feeder Outage Requirements for 25% Energy Savings

Autumn

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Autumn Energy	Expected Energy Savings
1			15.7%	0.0%
2			33.3%	0.0%
3			11.3%	0.0%
4			20.1%	0.0%
5	6.18	7	12.6%	3.25%
6	6.18	7	6.8%	1.75%
TOTAL				5.0%

Table 9 Feeder Outage Requirements for 5% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Autumn Energy	Expected Energy Savings
1			15.7%	0.0%
2			33.3%	0.0%
3			11.3%	0.0%
4	8	7	20.1%	3.53%
5	8	7	12.6%	4.2%
6	8	7	6.8%	2.27%
TOTAL				10.0%

Table 10 Feeder Outage Requirements for 10% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Autumn Energy	Expected Energy Savings
1			15.7%	0.0%
2			33.3%	0.0%
3			11.3%	1.83%
4	8	7	20.1%	6.70%
5	8	7	12.6%	4.20%
6	8	7	6.8%	2.27%
TOTAL				15.0%

Table 11 Feeder Outage Requirements for 15% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Autumn Energy	Expected Energy Savings
1			15.7%	0.0%
2	4	7	33.3%	0.0%
3	10	7	11.3%	3.55%
4	10	7	20.1%	8.37%
5	10	7	12.6%	5.25%
6	10	7	6.8%	2.83%
TOTAL				20.0%

Table 12 Feeder Outage Requirements for 20% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Autumn Energy	Expected Energy Savings
1			15.7%	0.0%
2 Part	11	7	33.3%	1.72%
3	11	7	11.3%	5.18%
4	11	7	20.1%	9.21%
5	11	7	12.6%	5.77%
6	11	7	6.8%	3.12%
TOTAL				25.0%

Table 13 Feeder Outage Requirements for 25% Energy Savings

Winter

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Winter Energy	Expected Energy Savings
1			16.1%	0.0%
2			32.6%	0.0%
3			13.0%	0.0%
4			18.2%	0.0%
5	5.79	7	14.7%	3.55%
6	5.79	7	6.0%	1.45%
TOTAL				5.0%

Table 14 Feeder Outage Requirements for 5% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Winter Energy	Expected Energy Savings
1			16.1%	0.0%
2			32.6%	0.0%
3			13.0%	0.0%
4 Part	8	7	18.2%	3.1%
5	8	7	14.7%	4.9%
6	8	7	6.0%	2.0%
TOTAL				10.0%

Table 15 Feeder Outage Requirements for 10% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Winter Energy	Expected Energy Savings
1			16.1%	0.0%
2			32.6%	0.0%
3 Part	8	7	13.0%	2.03%
4	8	7	18.2%	6.07%
5	8	7	14.7%	4.9%
6	8	7	6.0%	2.0%
TOTAL				15.0%

Table 16 Feeder Outage Requirements for 15% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Winter Energy	Expected Energy Savings
1			16.1%	0.0%
2			32.6%	0.0%
3 Part	10	7	13.0%	3.8%
4	10	7	18.2%	7.58%
5	10	7	14.7%	6.12%
6	10	7	6.0%	2.5%
TOTAL				20.0%

Table 17 Feeder Outage Requirements for 20% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Winter Energy	Expected Energy Savings
1			16.1%	0.0%
2 Part	11	7	32.6%	1.22%
3	11	7	13.0%	5.96%
4	11	7	18.2%	8.34%
5	11	7	14.7%	6.73%
6	11	7	6.0%	2.75%
TOTAL				25.0%

Table 18 Feeder Outage Requirements for 25% Energy Savings

Spring

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Spring Energy	Expected Energy Savings
1			13.7%	0.0%
2			30.8%	0.0%
3			32.8%	0.0%
4	5.26	7	5.2%	1.14%
5	5.26	7	12.0%	2.63%
6	5.26	7	5.6%	1.23%
TOTAL				5.0%

Table 19 Feeder Outage Requirements for 5% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Spring Energy	Expected Energy Savings
1			13.7%	0.0%
2			30.8%	0.0%
3 Part	8	7	32.8%	2.4%
4	8	7	5.2%	1.73%
5	8	7	12.0%	4.0%
6	8	7	5.6%	1.87%
TOTAL				10.0%

Table 20 Feeder Outage Requirements for 10% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Spring Energy	Expected Energy Savings
1			13.7%	0.0%
2			30.8%	0.0%
3 Part	10	7	32.8%	5.5%
4	10	7	5.2%	2.17%
5	10	7	12.0%	5.0%
6	10	7	5.6%	2.33%
TOTAL				15.0%


Table 21 Feeder Outage Requirements for 15% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Spring Energy	Expected Energy Savings
1			13.7%	0.0%
2			30.8%	0.0%
3 Part	10	7	32.8%	10.5%
4	10	7	5.2%	2.17%
5	10	7	12.0%	5.0%
6	10	7	5.6%	2.33%
TOTAL				20.0%

Table 22 Feeder Outage Requirements for 20% Energy Savings

Consumer Group Priority	Maximum Duration (hours)	Days per Week (based on 7 day week)	% System Spring Energy	Expected Energy Savings
1			13.7%	0.0%
2			30.8%	0.0%
3	11	7	32.8%	15.03%
4	11	7	5.2%	2.38%
5	11	7	12.0%	5.50%
6	11	7	5.6%	2.57%
TOTAL				25.48%

Table 23 Feeder Outage Requirements for 25% Energy Savings

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SUBJECT: Security of Supply – Participant Outage Plan			

The ratio of feeder loading percentage with and without AUFLS installed is approximately 40% of load with AUFLS and approximately 60% of load without AUFLS. This indicates that we more than meet the requirements of 2x 16% AUFLS banks. Consequently as priority 6 and 5 and then other priorities are shed, feeders with and without AUFLS will be used.

7.1 Contingent Events

If an unplanned event occurs, such as a Civil Defence emergency that could alter the planned rolling outages, Control Room Managers will be responsible for communication with retailers of any changes to the advertised program.

7.2 Consumer Liaison

Consumers are advised to contact their retailer for information on the feeder they are supplied from and outage times.

7.3 Vulnerable Consumers

Retailers maintain lists of consumers with medical or other issues. It is not feasible for Marlborough Lines to prevent rolling outages affecting individual vulnerable consumers. During rolling outages general media releases will advise consumers with health problems as to their best course of action.



Marlborough Lines Limited
1 Alfred Street,
PO Box 144, Blenheim, 7240
New Zealand
Telephone 0-3-577 7007
Facsimile 0-3-579 3806

Facsimile

To: Electricity Commission

From: Marlborough Lines Limited

Fax Number: 04 460 8879

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P.O.P. Updated Contact Details

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Message:

As required listed below are the staff appointed in the roles listed in the P.O.P. table 2 as required.

Network Operations Manager		
Name	Phone	Email
Alternative if no reply		

GIS Operator/Payroll/Records Clerk		
Name	Phone	Email
Alternative if no reply		

Customer Services Manager		
Name	Phone	Email
Alternative if no reply		



APPENDIX 2 – DRAFT ROLLING OUTAGE PUBLIC NOTICE

Electricity Supply Interruptions

Please read – your power supply may be affected.

Marlborough Lines is being required to reduce electricity consumption with rolling power outages across Marlborough to meet a% 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. Turning off controlled hot water is a means of controlling electricity consumption and this will be used extensively.

Outages will occur within the time periods noted in the schedule below. It is possible that changes in energy savings could occur **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.

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.

Avoid using lifts and remember that EFTPOS and other electronic equipment may not be usable.

Areas	Priority Group	Monday	Tuesday	Wednesday	Thursday	Friday
A	6					
B C	5					
D	6					
E F	5					