# Oji Fibre Solutions (Tasman Mill)

# Participant Rolling Outage Plan

**Partial Information Plan**

**July 2024**

# Contents

# Definitions

| | |
|---|---|
| **AUFLS** | Automatic Under Frequency Load Shedding |
| **Authority** | The Electricity Authority |
| **Code** | The Electricity Industry Participation Code 2010 |
| **Developing event** | An event that evolves over time, e.g. as the result of a period of unseasonably low inflows to hydro catchments |
| **EMP** | The system operators Emergency Management Policy. Current version effective 1 December 2022 |
| **GXP** | Transpower Grid Exit Point at which the OjiFS load is connected |
| **GEN** | Grid Emergency Notice |
| **Immediate event** | An event that occurs with little or no warning, e.g. as a result of a transmission or major power station failure |
| **PROP** | Participant Rolling Outage Plan (this plan) |
| **OjiFS** | Oji Fibre Solutions (NZ) Limited |
| **Rolling Outages** | Planned electricity disconnections spread over different parts of the electricity system at differing times to avoid prolonged outages at any one location. |
| **SOROP** | System operator rolling outage plan |
| **Supply shortage declaration** | Declaration made by the system operator under sub part 2 of Clause 9 of the Code. |
| **System Operator** | Operator of the national electricity transmission grid (Transpower) |
| **Transpower** | Transpower New Zealand Limited |
| **Transmission line** | A high voltage supply line owned and operated by Transpower New Zealand Limited |

# Associated documents

1. Emergency Management Policy published by Transpower, as System Operator effective 1 December 2022.
2. System Operator Rolling Outage Plan - Issued by Transpower, as System Operator and effective on 19 June 2016.
3. OjiFS operational procedures

# Purpose of this plan

1. Part 9 of the Electricity Industry Participation Code (the Code) relates to security of supply and includes provisions relating to the system operator rolling outage plan (SOROP) and participant rolling outage plans (PROPs).
2. This plan was written to satisfy the requirements of the Code that relate to PROPs. Clause 9.8 of the Code requires that each PROP must:
   a) be consistent with the system operator rolling outage plan; and
   b) comply with the requirements specified in the notice sent under clause 9.6(2)(a); and
   c) specify the actions that the specified participant will take to achieve, or contribute to achieving, reductions in the consumption of electricity (including any target level of reduction of consumption of electricity in accordance with criteria, methodologies, and principles specified in the system operator rolling outage plan) to comply with a direction from the system operator given under clause 9.15.
3. This PROP covers the following site:

| Site name | Physical location | GXP |
|---|---|---|
| Oji Fibre Solutions (NZ) Ltd – Tasman Mill | Kawerau, Bay of Plenty | KAW0112 |

4. This PROP provides details of how Oji Fibre Solutions (NZ) Ltd. (OjiFS) will respond following a supply shortage declaration and how the system operator should communicate any requests for reductions in demand to OjiFS.
5. The outage plan provides details of the main energy saving measures that can be called on and how these are structured and implemented.

# Supply shortage declaration

6. Part 9 Sub part 2 of the Code sets out how supply shortage situations will be managed.

7. Under the provisions of the Code the system operator has powers to direct outages following a supply shortage declaration. As a specified participant OjiFS must comply with any direction given by the system operator following a supply shortage declaration.

8. A supply shortage declaration may apply to:

   a) All of New Zealand; or

   b) Regions specified in the declaration

9. When a supply security declaration is made OjiFS must comply with a direction given by the system operator in accordance with this PROP.

10. The system operator may, at any time in the period during which a supply shortage declaration is in force, direct OjiFS to contribute to achieving reductions in the consumption of electricity by implementing outages or taking any other action specified in the direction.

11. A direction may be communicated through the information system operated by the system operator.

12. The system operator will notify OjiFS when a supply shortage declaration has been revoked

13. This PROP sets out the actions that OjiFS will take, who is responsible for implementing the actions and how communications will be managed between OjiFS and the system operator.

# Background

### The Electricity Authority

14. The Electricity Authority (Authority) is an independent Crown entity responsible for regulating the New Zealand electricity market. The Authority's objective is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

15. The core functions of the Authority are to:
    a) make and administer the Electricity Industry Participation Code 2010 (Code) governing the New Zealand electricity market;
    b) undertake market-facilitation measures (such as providing education, guidelines, information, and model arrangements) and monitor the operation and effectiveness of market- facilitation measures;
    c) monitor and enforce compliance with the Code, and the Act;
    d) proactively monitor the performance of the electricity industry in regard to competition, reliable supply and efficient operation; and
    e) contract service providers to operate the New Zealand electricity system and market in accordance with the Code

### Transpower

16. 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 and directly (grid) connected major electricity consumers.

### System operator

17. As system operator, Transpower manages the real-time operation of New Zealand's electricity transmission system by matching supply (generation dispatch) with demand.

### Oji Fibre Solutions

18. OjiFS is New Zealand's largest producer of wood pulp, paper and paper-based packaging products with operations across NZ. It is organised around two business units: Pulp and Paper; and Packaging. The business is highly integrated. Packaging operations are dependent on the pulp and paper operations for the supply of packaging papers for their products.

19. OjiFS is wholly owned by Oji Holdings, one of the largest pulp and paper companies in the world.

20. Oji Fibre Solutions Pulp mill at Tasman produces fibre cement pulp and unbleached Kraft pulp for the export market. Production is approximately 300,000 Tonnes per annum with at least 75% of this volume exported.

21. The plant comprises of two kraft pulp production lines along with associated steam raising, auxiliary and electricity generation plant.

22. The mill has an average electricity usage of approximately 18 MW of which approximately 9 MW or 50% is generated on site.

23. The mill is a continuous 24/7 operation characterised generally by a high process inertia. The plant takes a significant amount of time to shut down and start up in a safe, environmentally responsible and controlled fashion.

24. Crucial control systems have UPS's and some parts of the plant have their own diesel powered generator or diesel powered drive to ensure plant and personnel safety in the event of a power outage e.g. Kiln rotational drives, diesel generator for crucial safety functions in the chemical plant, diesel generator for turbine/generator lubrication.

25. There are some other parts of the plant which cannot tolerate an electricity outage of more than approximately 2 hours (clarifiers) without significant and time consuming clean up taking in the order of 3-5 days.

26. The amount of generation from our on-site non-condensing steam turbine generator is fully dependant on the plant steam load which in turn is fully dependant on plant operation. The impact of this is that any reduction in electrical load reduces plant operation and steam production and therefore generation. The result is that reducing electrical load significantly will reduce net load import by a lesser proportion. In some cases it will be as low as 10-30% of the total load reduction being realised as a net reduction in import power. Therefore management of load shedding needs to be carefully managed as crudely taking out one block of plant will often shut down an entire Fibreline within a few hours at huge cost for a relatively small reduction in net load.

# Security of supply events covered by this plan

27. In its Emergency Management Policy, the system operator provides the steps that the system operator will take and the circumstances that will need to exist for a supply security declaration to be made. Those steps provide for a series of last resort emergency measures, which would not be implemented unless there was a significant risk that it would not be possible to meet the demand for electricity on a sustained basis.

28. The types of events likely to require the implementation of the EMP include an extended period of extremely low inflows to hydro catchments, a major asset outage that was expected to be sustained for a long period, or some combination of these events.

29. The EMP describes events that could lead the system operator to make a supply shortage declaration these are:

- **Developing Event** – Events that evolve over time – for example as the result of a period of unseasonably low inflows to hydro catchments; and
- **Immediate Events** –. Events that occur with little or no warning – for example as a result of a transmission or major power station failure, the impact of which are expected to extend over a period of weeks rather than days.

30. Rolling outages under a supply shortage declaration are a last resort measure the system operator may initiate, after consultation with the Authority, only if there is a shortage of electricity supply (generation) or transmission capacity if the system operator considers:

a) that the normal operation of the wholesale market is, or will soon be, unlikely to facilitate the adjustment of supply and demand necessary to ensure that supply matches demand; and

b) that, if planned outages are not implemented, unplanned outages are more likely than not.

# Full information & partial information PROPS

31. The System Operator Rolling Outage Plan sets out the following requirements for direct connect PROPs.

***Full information plans**: These plans must contain sufficient information for the system operator to make a decision on the most appropriate savings target for the direct-connect user.*

*A direct-connect user's full information plan must inform the system operator about:*

- *the nature of the load on site;*
- *whether any load is used to provide other services to the electricity sector such as interruptible load;*
- *the extent to which different levels of savings can be achieved;*
- *the nature of the measures that could be implemented; and*
- *the cost associated with different levels of savings.*

***Partial information plans**: These plans may contain some of the information required for full information plans. If the system operator sets a savings target for a region where there is a direct-connect user with a partial information plan, their savings target will likely be set to achieve the same percentage saving as distribution companies in that region.*

# What this PROP contains

32. This PROP includes procedures for managing both developing and immediate category of event.

| Section | Content |
|---|---|
| **Communications** | Contact details for communications during a supply shortage declaration |
| **Description of Load** | A description of the OjiFS load |
| **Site response** | How the site will respond to different types of events including a plan of possible savings |
| **Coordination with the system operator** | Sets out how OjiFS will coordinate with the system operator |
| **Monitoring and reporting** | How OjiFS will monitor and report savings made |

33. This PROP contains all the information required for **Partial Information Plan**.

# Communications

All urgent operational communications should, in the first instance, be made to:

Contact: Electrical Control Room
Email: electcntrlrm@ojifs.com
Phone: 07 323 3460

If unable to be contacted, then try:
Contact: Tasman Mill Shift Manager
Phone: 07 306 9218

The Electrical Control Room will communicate with the System Operator for operational communications using the following details:

Transpower National Control Centre
Security Desk Duty: 0800 488 500
Energy Desk Duty: 0800 535 123

Communications from the system operator about **supply shortages**, **supply shortage declarations**, **directions** and **rolling outages** should be made to:

Contact: Electrical Manager
Mobile: 021 223 3813
Email: allan.holden@ojifs.com

If unable to be contacted, then try:

Contact: Tasman Mill General Manager
Phone: 07 306 9286
Mobile: 027 243 3707
Email: David.daines@ojifs.com

The relevant person who the system operator should notify for revocation of the shortage declaration is:

Contact: Electrical Control Room
Phone: 07 323 3460
Email: electcntrlrm@ojifs.com

If unable to be contacted, then try:

Contact: Tasman Mill Shift Manager
Phone: 07 306 9218

The OjiFS person responsible for to the System Operator on the performance against the savings target is:

Contact: Electrical Manager
Mobile: 021 223 3813
Email: allan.holden@ojifs.com

The relevant OjiFS people in the above positions will communicate with the System Operator for administration and reporting against the targets using the following details:

Contact: System Operator
Phone: 04 590 7000
Email: system.operator@transpower.co.nz

The OjiFS person who is responsible for communicating with the media (if required) is:
Contact: CEO
Mobile: 027 512 3837
Email: jon.ryder@ojifs.com

# Description of site load

34. The site operates continuously 24 x 7. The total electrical demand of the site is approximately 18 MW.

35. At the NST/OJI site, there are 4 embedded Generators connected to the 11kV distribution system:

| | | |
|---|---|---|
| OjiFS | TA3 | 8MW |
| OJIFS | TA2 | 9MW |
| Eastland | TOPP1 | 21MW |
| Eastland | KA24 | 8MW |

36. Due to on-site generation* capability the net load at the grid connection point is approximately 9 MW connected to one half of the KAW0112 GXP (T6 and T7), while there is a net injection of approximately 37 MW to the other half of the KAW0112 GXP (T8 and T9).

37. The electrical loads are:

| Load | Description | Approximate Load MW |
|---|---|---|
| Chip Mill | Manufacturing of wood chips from whole logs | 2 |
| Boilers | Boilers utilise wood waste and other waste products. Output steam from the boilers is used in process and electricity generation. Continuous operation of the boilers is essential to on-site generation. | 2 |
| Auxiliary loads | General site auxiliary loads (including pulp mill and effluent system) | 14 |
| | Site total load | 18 |
| | On-site generation* | (46) |
| | Net generation injected into the Grid | 28 |

**OjiFS owns TA2, which is normally 9 MW of generation, TA3 of 7.4 MW. Eastland Generation owns TOPP1 of 21MW and KA24 of about 8 MW. Note that TA3 is being repaired at present and will be resuming normal operation from 20 August 2024.*

# How the site will respond

38. The system operator is responsible for making a supply shortage declaration and for directing specified participants to implement rolling outages. Communication of such a declaration and direction to OjiFS to reduce demand should be given to the following person.

    Contact: Electrical Control Room
    Email: electcntrlrm@ojifs.com
    Phone: 07 323 3460

Emails should be copied to allan.holden@ojifs.com and darren.gilchrist@ojfs.com

39. In practice a declaration pursuant to the Code will be communicated to OjiFS directly from the system operator. Directions to implement the savings plan (e.g. reduce load) will be made by the System Operator to OjiFS. Directions to reduce load should be made to:

    Contact: Electrical Control Room
    Email: electcntrlrm@ojifs.com
    Phone: 07 323 3460

Emails should be copied to allan.holden@ojifs.com and darren.gilchrist@ojfs.com

If unable to be contacted, then contact:

Contact: Tasman Mill General Manager
Phone: 07 306 9286
Mobile: 027 243 3707
Email: David.daines@ojifs.com

40. The above person has the authority to make demand reductions and is responsible for coordinating emergency demand response at OjiFS and communicating with the System Operator when a directive is in force.
41. The receipt of a direction to save energy will be acknowledged by sending an email to the System operator system.operator@transpower.co.nz
42. Any load that has already been reduced due to a Grid Emergency notification will be considered to have contributed towards the requested savings under a Directive.
43. No load reduction will occur if such reduction in load will result in a drop in cogeneration output or if such load reduction is likely impact on Health and Safety or site security.
44. Following receipt of a direction OjiFS will, as soon as reasonably possible, issue a directive to all staff to reduce all discretionary electricity use. Discretionary means electricity use that does not impact on production and the health and safety of people and security of the site.
45. If further reductions are necessary to meet the direction OjiFS will implement the savings plan set out in the following section.

# Savings Plan

### Conservation

46. All OjiFS staff will be contacted by email and asked to implement a reduction in discretionary electricity use that does not impact on production and the health and safety of people and security of the site.

47. Wood preparation (Chip Mill) operation will be able to stopped completely, resulting in a saving of approximately 2 MW. In addition, to the extent possible, other auxiliary load will be reduced, potentially reducing gross load by a further 2-3 MW.

### Grid Emergencies

48. In the event that a Grid Emergency is coincident with a request for savings under this PROP it is assumed that the Grid Emergency requirements made by the system operator will take precedence over the PROP savings plan. The level of savings available under this plan will, therefore, be reduced by the level of any load reductions made in response to a Grid Emergency.

49. Once a Grid Emergency has ceased the load savings under this PROP will be recommenced.

### Disconnecting and Restoring Load

50. OjiFS's procedure for disconnecting and reconnecting load will follow normal operating procedures for stopping or starting Mill operations.

51. OjiFS's maximum planned increase or decrease in demand will not exceed 5MW in any 5-minute period.

52. OjiFS recognise the need to coordinate the implementation of its outages with the system operator to minimise the risk to unexpected power outcomes. In line with direction and coordination with the system operator OjiFS will use it best endeavours to minimise the impact of load changes on frequency and voltage stability and also minimise demand changes during times when demand is typically ramping up or down (for example either side of morning and evening peaks).

### Indicative cost of savings

53. The costs incurred by OjiFS for implementing the various levels of savings described in this PROP will be dependent on the timing, duration and frequency of the required load reductions. External factors such as pulp market conditions will be very relevant to the costs incurred due to implementing the savings plan.

54. Under developing events OjiFS may be in a position to provide the system operator with indicative estimates of the cost of savings if this information would be useful to the system operator in allocating savings between participants. Under immediate events cost information may not be available.

# Coordination with the System Operator

55. Communications from the System Operator for coordination of OjiFS's operations will be made in the first instance to:

    Contact: Electrical Control Room
    Phone: 07 323 3460

56. The Electrical Control Room Operator will confirm, by telephone to the System Operator, all emails received requesting load reductions under a direction. Load reductions will only be made once telephone confirmation has been made.

# Monitoring and reporting

57. Monitoring and reporting for operational purposes will be to the system operator.
58. For major loads, OjiFS's internally captured data will be used to produce daily or weekly reports of savings achieved.
59. For unmetered loads, savings will be calculated by comparison with an average energy consumption profile and the observed actual loading reductions during a supply shortage event.
60. Monitoring and reporting is the responsibility of the Energy Manager.
61. Reporting to the system operator will be undertaken as requested or on a weekly basis.
62. Should it be required reporting to the Electricity Authority will be undertaken at intervals as required by the Authority.