

Network Waitaki Limited

Voltage quality and constraints disclosure August 2024

Electricity distribution
information disclosure
determination 2012

Approved 29 August 2024

Purpose statement

Network Waitaki Limited is a supplier of electricity distribution services and is regulated under Part 4 of the Commerce Act 1986. We are subject to information disclosure regulations administered by the Commerce Commission. In February 2024, the Commission introduced new reporting requirements to the asset management plans by introducing clause 17.2.2 of Attachment A of *the Electricity Distribution Information Disclosure (Targeted Review 2024) Amendment Determination 2024 [2024] NZCC2*, 29 February 2024 (the [ID Determination](#)).

We are pleased to disclose the information as prescribed by the Commission publicly as an addendum to our [2024 Asset Management Plan](#) (2024 AMP).

Background

Why are we providing this information?

Clause 17 of Attachment A of the ID Determination requires Asset Management Plans to include qualitative information in narrative form as prescribed in clauses 17.1 to 17.7. In February 2024, the Commission introduced a new clause, 17.2.2. The 2024 AMP had to be published on or before 31 March 2024, and it gave electricity distribution businesses (EDBs) until 31 August 2024 to publicly disclose that information in a standalone document.¹

What information are we being asked to provide?

17.2 a description of the EDB's practices for:

17.2.2 monitoring load and injection constraints, including:

- (a) any challenges and progress towards collecting or procuring data required to inform the EDB of current and forecast constraints on its low voltage network, including historical consumption data; and
- (b) any analysis and modelling (including any assumptions and limitations) the EDB undertakes or intends to undertake, with the data described in clause 17.2.2(a).

Our practices for monitoring load and injection constraints

Overview

In our [2024 Asset Management Plan](#), we describe our Enhanced Low Voltage Network Strategy and lay out how we will enable our customers' energy transition on our low voltage networks.

Our strategy is based around monitoring real-time performance of key low voltage feeders to:

- understand our customers' energy trends
- develop a baseline to allow us to model future customer energy scenarios
- understand real-time constraints on transformers and low voltage feeders
- ensure we don't damage our low voltage assets
- ensure we make efficient network investments and provide best value to our customers

We are also investigating the value of analysing smart meter data to augment the information we receive from our low voltage feeder monitoring system.

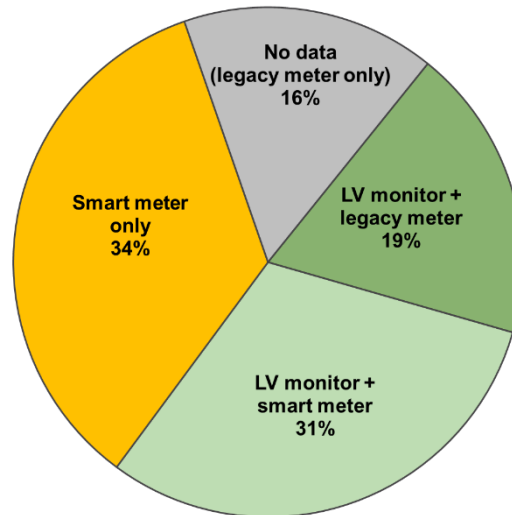
¹ As per clause 2.6.1B

Our progress

Low voltage monitoring system data

We are currently monitoring low voltage feeders and transformers supplying 50% of Ōamaru urban domestic customers (green shaded segments in Figure 1) and we expect this to increase to 60-70% over the next six months. This low voltage monitoring system provides real-time power quality data and allows us to understand constraints on these assets to the level of each conductor in a low voltage feeder.

Figure 1 – Ōamaru urban domestic customers – Proportion of customers with data visibility - August 2024



Of the 50% of Ōamaru urban domestic customers who are not currently on a monitored low voltage feeder, 34% have a smart meter installed (orange segment) and 16% have a non-smart legacy meter installed (grey segment). At present, we use data from monitored feeders to estimate data for these customers and we will see these numbers reduce as we install further monitoring systems.

Smart meter Network Operational Data Service (NODS) data

We are also investigating the value of smart meter NODS data and have engaged a Metering Equipment Provider (MEP) with 70% coverage of our connected customers to provide trial NODS data. As part of this trial we have engaged a data analytics platform provider to ingest the NODS data, along with data from our low voltage monitoring system, and we will work with them over the next twelve months to investigate the value of customer and network benefits.

Half hour consumption data

Due to our decision to trial NODS data, we are not currently looking to procure consumption data although we have previously received bulk consumption data from a dominant retailer in our area.

Half hourly consumption data is less useful to us than NODS data as it does not provide:

- sufficient resolution to detect short-term overloads (which we expect to become more important as other parties control more of our customers' flexible resources)
- voltage information which is important to understand actual impacts from electric vehicles and solar generation.

However, if NODS data is not economically viable to obtain, we will investigate the value of using consumption data instead.

Challenges

We are concerned that without any real competition or regulation, Metering Equipment Providers (MEPs) are able to set NODS data prices significantly higher than incremental cost which may reduce economic justification to use these data services and result in customers paying a premium for their own data.

We are also concerned that some MEPs appear to have minimum contract tenors in the order of several years which we consider excessive, especially when we are in the early stages of investigating the value proposition for our customers.

Current data services from MEPs cannot provide near-real-time smart meter event/ping information which limits data uses to long-term planning rather than operational applications. We do not currently need near-real-time data, however, we expect this need to increase as more of our customers want visibility of their power status, and as we develop advanced systems to manage our networks (noting that the majority of this benefit is in the operational and customer service space rather than network planning and delivery space).

Analysis and modelling we intend to undertake

Our low voltage monitoring system monitors real-time demand and power quality on transformers and low voltage feeder and alerts us if demand is approaching a constraint condition. We also use data from this system as a baseline to model future demand scenarios and investment plans.

We plan to analyse smart meter NODS data as part of our data analytics platform trial and will look to investigate potential benefits for our customers and network which may include:

- understanding actual voltage performance at customer premises
- understanding asset utilisation where we don't have low voltage monitors installed
- increasing customer load profile accuracy
- potential to conduct "model-free" hosting capacity analysis

We intend to collaborate with others, including the ENA Future Network Forum, to share learnings and to move towards developing consistent data handling methods, scenario assumptions, modelling approaches, and presentation of customer facing information.

Over the next 18 months, we plan to develop customer self-service hosting capacity maps for load and generation at the high voltage level of our network. Through the Future Network Forum, we are working with Powerco to learn from the industry-leading work they have done in this space.

Appendix A – Director Certification

Schedule 18 Certification for Disclosures Clause 2.9.2

We, Michael de Buyzer and Jonathan Kay, being directors of Network Waitaki Limited, certify that, having made all reasonable enquiry, to the best of our knowledge-

The information prepared for the purposes of clause 2.6.1B of the Electricity Distribution Information Determination 2012 in all material respects complies with that determination.



Michael de Buyzer

Michael de Buyzer
Date: 29/08/2024



Jonathan Kay
Date: 29/08/2024