



# Low Voltage Information Disclosure 2024

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## Introduction

This Asset Management Plan information disclosure covers clause 17.2.2 covering the additional narrative requirements prescribed in the Commerce Commission’s Targeted Information Disclosure Review (February 2024 decision D3.3)

These requirements are specified in Clause 2.6.1B and Clause 17.2.2. The requirements are as follows:

*“2.6.1B Each EDB is also required to publicly disclose qualitative information in narrative form that describes its practices in a manner that complies with clause 17.2.2 of Attachment A by 31 August 2024 in a standalone document.”*

*“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).”*

## Disclosure

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### Collecting, Procuring Data Amendment D3.3 : 17.2.2 (a) and Analysis 17.2.2 (b)

#### LV visibility, data analytics and load profiles

##### *2023 AMP Section 6.7.2*

A foundational element of enabling flexible networks and non-wire solutions is statistical and time-based information, on load and generation profiles at all levels of the network. To increase the resolution of information, WEL is investing in network monitoring equipment at the LV level.

Data analytics are applied to the load and power quality information from smart meter and Power Quality (PQ) analysers to create statistical demand profiles for each customer group. This establishes a baseline for current customer behaviour, and is used to locate potential flexible demand, and increasing the certainty of large customer connection requests.

Information from smart meters and PQ analysers upstream of groups of customers (e.g. at distribution transformers) is used to validate finer customer load profiles and estimate load profiles for customers on parts of the network without our smart meters.

2024 AMP Section 2.4

Our DSO roadmap shown below enhances visibility using smart meters. The smart meter data enables innovative practices and is presently used to manage issue across the LV network including broken neutral connections. This visibility enabled further innovation in trials for DER interfacing and DERMS (Distributed Energy Resource Management System).

In 2024 we are initiating the phase 3 planning in parallel with Phase 2 in other workstreams. In the below roadmap, we have identified the top six issues that must be addressed by taking a different approach, which include:

- 1.Operational safety risks due to data error and equipment failure – **Safety**
- 2.An aging network with more defects due to equipment deterioration – **Asset Integrity**
- 3.Higher energy cost, construction costs, labour costs and equipment costs – **Affordability**
- 4.Reduced system availability caused by frequently occurring major climatic events – **Resilience**
- 5.Growth of new connections and higher capacity demand occurring at a rate faster than we can manage - Electrification
- 6.Consumer owned DERs and utility scale DERs causing reverse energy flow and subsequent power system constraints – **Compliance**

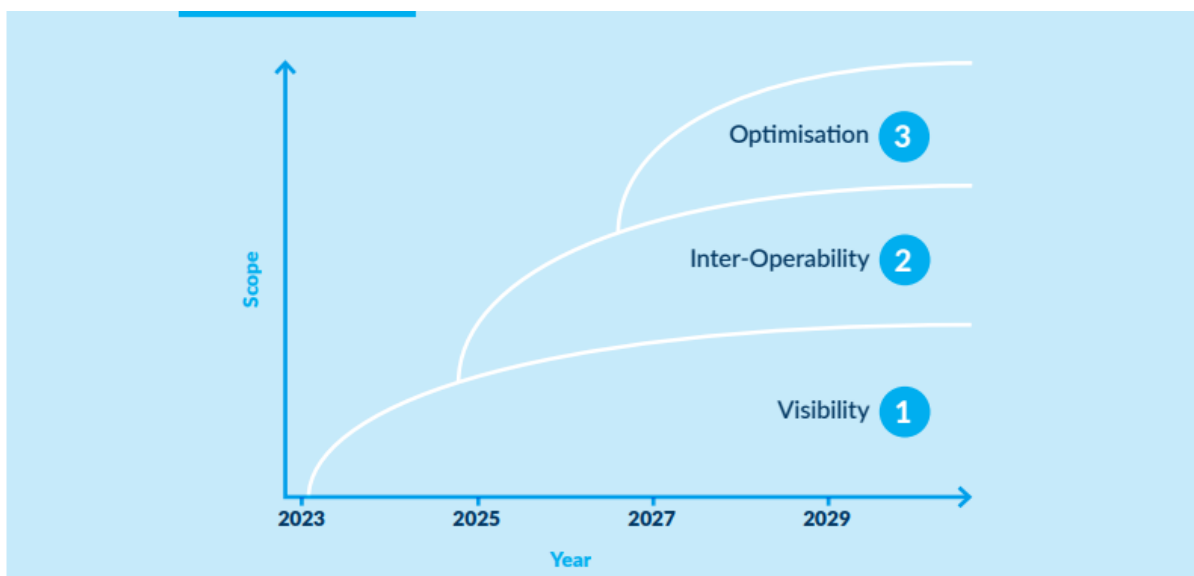


Figure 1: DSO Strategy Roadmap

Multiple benefits are being realised by WEL from the DSO R&D low voltage insights and tools being produced for business adoption. The outcomes from these insights address health and safety risk and cost savings for both customer and network. The following is a summary of achievements to date:

- Developed a pilot fault detection system for major event response.
- Data science and a new system to detect HV line down, neutral faults, LV burning
- conductors, as well as equipment failure prediction.
- Reinforcing the network metering system and proactively managing comms issues, faulty meters, and obsolete equipment.

- A new DSO application to support new connection assessment process.
- Pilot solutions to address DER integration needs to avoid system overloading and supply compliance issues.
- New data analytic solutions to assist network planning functions.

- New systems to support network engineering and design functions.
- Engineering logic to detect network connectivity issues to support GIS development.
- Working with external aggregators, DER managers, and retailers on developing non-network solutions and proving technology trials for an open network

## Directors' Certificate

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The contents of this disclosure have been collated from our previous 2023 AMP and 2024 AMP Update; therefore this disclosure is certified as part of our Published 2024 AMP Update.

The previous Director Certification is located on Page 50 of our AMP located here: [2024 AMP Update](#)

The specific 17.2.2 disclosure statement is currently not available , and will be certified at the November 2024 meeting and the certificate will be forwarded to the Commerce Commission as soon as possible after certification.