MONITORING LOAD AND INJECTION CONSTRAINTS

AUGUST 2024

1 EXECUTIVE SUMMARY

Under clause 2.6.1B of the Electricity Distribution Information Disclosure Determination 2012 we are required to publicly disclose information describing our practices for monitoring load and injection constraints, as set out in clause 17.2.2 of Attachment A, which is outlined below.

Information Disclosure Determination – clause 17.2.2 of Attachment A

We must disclose a description of our practices for monitoring load and injection constraints, including:

(a) any challenges, and progress, towards collecting or procuring data required to inform us of current and forecast constraints on our low voltage network, including historical consumption data; and

(b) any analysis and modelling (including any assumptions and limitations) of the above data we have undertaken or intend to undertake.

A Directors' Certificate must accompany this information.

Further detail regarding our low voltage (LV) practices can be found in section 9.5 of our 2024 Asset Management Plan and in chapter 3 of our Development Plan, both of which can be found on our website at www.auroraenergy.co.nz.

2 PRACTICES FOR MONITORING LOAD AND INJECTION CONSTRAINTS

We currently rely on the data provisions in our Distributor Agreements with retailers and some alternative consumption data agreements in accordance with clause 9 of Schedule 12A.1 of the Electricity Industry Participation Code 2010 to collect data on our LV network.

The data collected is typically only consumption data in 30-minute intervals. To collect the data, we have to make specific requests to each individual retailer. Due to the large quantities of data involved we usually only receive a sample of ICPs on the network, and the timeliness of receipt of the data is dependent on the retailer. Furthermore, the data will always be at least a month in arrears.

Our preferred way to achieve LV visibility is through the use of smart meter network operating data (NOD) and distribution transformer monitoring (DTM) data for data analytics in combination with Aurora Energy systems to understand the LV network. This data is more granular and has greater application compared to consumption data as it provides 5-minute intervals of voltage, current and phase angle.

We are in discussion with metering providers for access to NOD. The challenges that we are facing when attempting to procure NOD are:

- the significant cost and extended terms of proposed agreements, when useability of the data is not yet certain;

- the inability of some metering providers operating on our network to provide NOD data on a readily available basis; and
- metering providers still have legacy meters meaning they cannot provide smart meter data from those meters.

We also do not have visibility of all electric vehicle (EV) connections on our network because these connections do not require a connection application. In the absence of a regulatory mandate, we cannot control this. In contrast, households with solar installations are required to submit a connection application to Aurora Energy before installation, meaning we have visibility of where solar is installed on our network. Charging of EVs impact the LV network so it is important to have this visibility in order to mitigate that impact.

In conjunction with ANSA Consulting (ANSA), we used the consumption data set to conduct a study of distributed generation hosting capacity during the initial stages of the Upper Clutha DER solution project. After this, a network-wide hosting study was conducted.

The study gives us an understanding of the ability of the LV network to host (connect) solar and EV chargers and where the constraints are, based on penetration level. This will enable us to address potential issues relating to voltage and capacity before they happen.

We intend to rerun a hosting study for the whole LV network once we have consumption data from retailers. The rerun will include LV capex modelling. This will aid asset management of the LV network in terms of investment planning by identifying where the constraints are.

We are currently working through a procurement process for an LV Visibility platform. The platform will enable us to view the LV network, perform data analytics and provide monitoring. It will also enable us to take initiative in low/high voltage occurrences and power quality issues, be proactive in identification of safety hazards, optimise asset capability, improve network performance, enable operability of the LV network and, foremost, improve our consumer service.

The LV Visibility platform is dependent on the procurement of NOD.

SCHEDULE 18

Directors Certification

Clause 2.9.2

We, Stephen Richard Thompson and Janice Evelyn Fredric, being directors of Aurora Energy 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 Disclosure Determination 2012 in all material respects complies with that determination.

Signed by:
Stephen Thompson
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Stephen Richard Thompson

Signed by:
Janice Fredric
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Janice Evelyn Fredric

29 August 2024