

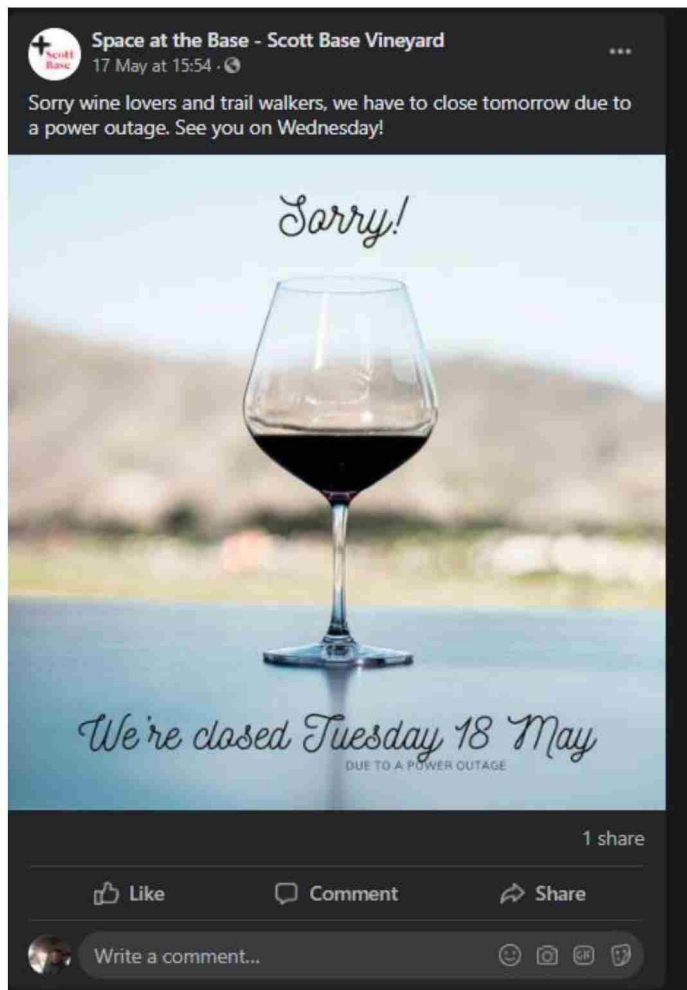
Information Disclosure Cross Submission

Mayor of CODC Submission

I support the Mayor of CODC submission that the Commerce Commission needs to take charge of the role of watchdog during the CPP. Now is not the time for the Commerce Commission to return to their largely hands off, mates role with regards to Aurora. The Commerce Commission have essentially signed consumers up to a contract heavily biased in Auroras favour. To justify this the Commerce Commission, need to step up not only to build trust back in Aurora but the Commerce Commission itself.

The idea of a real time traffic system for outages is good. Real time reporting of faults on a dedicated page could be easily updated by Aurora staff on duty 24/7 to maintaining call and operations centres and could easily be a secondary task for these positions. Just importantly all outages, planned, unplanned and extended need to be backed up with pertinent independently reviewed details (job card) as originally submitted on.

Planned outages cancelled without notice or notification are a problem for consumers. This small business closed for a planned outage only for the outage not to happen. The outage will be rescheduled for another day and the business will have to close again with another day of lost trade. Consumers need visibility and justification why outages are cancelled with or without notice.



<https://www.facebook.com/spaceatthebase>

Customer Charter

The concern here is that the Aurora Customer charter is not mandated by the Commission not that it is. The Charter is the only recourse consumers have over Aurora when things go wrong. Under the current plan Aurora could decide to abolish the Charter. It has relatively high thresholds before it kicks in and modest returns for consumers and costs for Aurora – maybe enough to pay for takeaways for a family during an extended unplanned power cut.

The other lines companies' submissions are concerning and driving a monopoly profit first approach at all costs for Aurora at further expense for the consumer, applying peer like pressure for Aurora/Commerce Commission to remove it as bad industry practice.

Power Quality – Low Voltage

Aurora, ENA, Vector and PowerCo believe there is no business case or customer benefit to low voltage monitoring. They are conveniently overlooking the effects on consumers of low voltage conditions on consumer equipment and appliances connected to the network. It can lead to premature failure of equipment such as heat pumps and fridges. It also increases the power losses on lines due to equipment with switch mode power supplies (in computers, TVs etc) drawing more current as voltage drops to maintain power output levels resulting in higher I^2R losses (I = current, R = resistance of lines) – power loses in the conductors which is turned into heat and wasted energy.

The Commerce Commission obviously has concerns that there are under voltage conditions on the Aurora network, or they would not have pursued it through information disclosures. They need to be disclosed at the time they are happening so sensitive equipment can be removed from the network and so that customers can claim against Aurora for damage/replacement of equipment caused by undervoltage conditions.

The aversion of other lines companies to disclosing low voltage events maybe because themselves or their members may also have low voltage issues and have a conflict of interest in not seeing low voltage monitoring/alerts reported as they may be liable for the breaches and damage to electrical appliances such as heat pumps, fridges etc.

As already has been pointed out in a previous submission there is a legal requirement under the Electricity (Safety) Regulations 2010 to maintain voltages within +/-6% of a nominal value of 230V by NZ standards. The submissions by the ENA and other lines companies seek to remove reporting of under voltage conditions which would apply the principle of *“If you don't monitor it there is no problem”*. That does not mean the problem is not there it just means they are operating in breach of the Act. Therefore, the Commerce Commission needs to regulate to the laws of this country and enforce the reporting of all under voltage conditions across all line's networks, not just Aurora. This is probably what these companies are trying to discourage as they are possibly in breach in areas on their network as well.

The argument that setting up under voltage monitoring equipment is expensive and disproportionate seem to be a smoke screen – beside the fact they have a legal responsibility to maintain specific voltage levels.

The technology has already been in place for several years in the form of smart meters. According to an Electricity Authority (EA) report in 2016 more than 70% of NZ homes have smart meters (1.5 million meters)¹

¹ [Smart meters: Enhancing competition and enabling new consumer technologies, 13 Sep 2016](#)

The EA has already set the policies up for this. From the EA Guidelines on Advanced Metering Infrastructure² show that smart meters are capable of measuring, logging and alerting based on events like low voltage:

- 69. Event or measured parameter recording should comprise two types, those related to the operation of the system, and those involving measurements. These recordings should be recorded and time stamped in the event log within the CPE. The AMI system should allow real time event alerts to be sent from the meter to the AMI system backoffice should a pre-programmed threshold occur, e.g. power restore or low voltage.

And Appendix A.1

- 2. Back office, Meter event logs, Essential. Track in event log
- 47. Meter reading, Meter event triggers a special read, Essential for the agreed functionality and may include events such as tamper, or preset thresholds for instantaneous event log events such as low voltage or high current.

From the EA Policy on Advanced Metering Policy³

- Appendix B Benefits of advanced metering
 - 3.2 Specifically, distributors should also benefit from the use of AMI by using the systems to:
 - (e) check voltage limits (high and low) on a low voltage feeder to ensure it is within compliance limits;

From the Electricity Industry Participation Code 2010, Schedule 12A.4. Appendix A⁴

- 4. Power Quality
 - Measure, 4.2 Steady state supply voltage range
 - Service Level, Maintain voltage within +/- 6% of nominal voltage at each point of supply
 - Conditions, Excludes momentary fluctuations. If no suitable means of measurement is permanently available (such as by advanced metering functionality), supply voltage must only be measured in response to a Customer complaint. Includes voltage excursions caused, or contributed to, by Transmission Interruptions.

From the above it should be clear that the technology and policy for detecting and logging an under voltage event are already in place and should already be occurring as there would be a significant number of advanced metering functionality, smart meters on Auroras network and other networks. I am sure if someone tampered with a smart meter and set off a tamper alarm the network operators would be investigating in a pretty short order. If they can do this they can be alerted to undervoltage events.

The smart meter installed on my own house below is a Vector supplied EDMI Atlas Mk7A smart meter. These meters are connected to the MEPs back office for metering reading for billing etc. They can be programmed and updated remotely through the back office so if the meters are not setup to

² [Guidelines on Advanced Metering Infrastructure, Version 3.1, Electricity Authority November 2010](#)

³ [Advanced Metering Policy, Version 1.1, Electricity Authority, November 2010](#)

⁴ [Electricity Industry Participation Code 2010](#)

alert for low voltage they could be updated in a systematic way. The linked manual⁵ shows how Voltage Tolerance Errors (under over voltage alerts) and Voltage Sag event logs can be made and recorded by the meter. Therefore it proves that the capability is available and the lines companies and regulators are well aware of the capabilities of the meters.



With regards to low voltage monitoring the Regulators do not have to wait for the release of Aurora IDs in August as it is already mandated in law and in policy and should be instigated immediately.

Trevor Tinworth

Cromwell

⁵ [Atlas Series Energy Meters Mk10 / Mk7 Software Reference Manual, Revision M, Release Date: 3rd September 2009, 1910-E-07](#)