

09 February 2021

Ken Sutherland
Group Chief Executive Officer
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Hastings
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By email only: [REDACTED]

Cc: [REDACTED]

Dear Mr Sutherland

Unison Networks Limited: compliance advice for contravention of the DPP quality standard in the 2018 assessment period

1. The Commerce Commission (**Commission**) has been investigating Unison Networks Limited (**Unison**) for its contravention of the quality standard under the Electricity Distribution Services Default Price-Quality Path Determination 2015 (**DPP2**) in the assessment period ending 31 March 2018 (**AP2018**). We have now completed our investigation and are writing to provide you with compliance advice.
2. In summary, Unison contravened the quality standard for AP2018, having exceeded the 'system average interruption duration index' (**SAIDI**) in AP2017 and AP2018. Having considered the information available, the Commission considers that compliance advice is the appropriate response.

Quality standards under DPP2

3. Unison is subject to the default price-quality path which sets quality standards to which it must adhere. Under DPP2, which ended on 31 March 2020, the quality standards were contravened where an Electricity Distribution Business (**EDB**) exceeded either its SAIDI or 'system average interruption frequency index' (**SAIFI**) reliability limit in two out of three years.
4. Unison reported exceeding its SAIDI reliability limit in AP2017 and AP2018:

Year	Measure	Limit	Non-normalised	Normalised	% over Limit (normalised)
2017	SAIDI	110.17	186.08	124.64	13.13%
2018	SAIDI	110.17	341.10	128.67	16.79%

The investigation

5. The investigation considered Unison’s publicly disclosed documents, Unison’s response to the Commission’s request for information and other information provided by Unison, Strata Energy Consulting Limited’s (**Strata’s**) quality non-compliance report (**the Expert Opinion**), and Unison’s compliance history with the quality standards.

Information provided by Unison

6. Unison provided information in writing, and through two onsite visits. In summary, Unison provided five main explanations for exceeding its SAIDI limits in AP2017 and AP2018:
 - 6.1 **Extreme weather events:** there was a significant increase in the number of extreme weather events in AP2018 compared to the historic average. Specifically, Unison encountered three storms with >140km/h winds that resulted in four ‘major event days’ (**MEDs**).
 - 6.2 **Changes to live line practices:** an increase in planned outages as a result of changes to live line working practices contributed to its exceedances of the quality standards.
 - 6.3 **Changes in manual reclosing practices:** increased fault restoration times due to changes in manual reclosing practices (primarily related to vegetation attributed faults) contributed to its exceedances of the quality standards.
 - 6.4 **Outages attributed to external influences:** there was a significant increase in outages attributed to external influences, which contributed to its exceedances of the quality standards.
 - 6.5 **Fall distance zone trees:** there was a significant increase in outage events attributed to fall distance zone (**FDZ**) trees, which contributed to its exceedances of the quality standards.¹

The Expert Opinion

7. The Commission engaged Strata to provide an expert opinion on the explanations provided by Unison, and whether Unison had acted in accordance with good industry practice (**GIP**) in relation to each. A summary of Strata’s views on each of the reasons is provided at **Attachment A**.
8. Overall, Strata agreed with the explanations for the exceedances provided by Unison and was of the view that Unison’s conduct during AP2017 and AP2018, largely met GIP. Strata regarded Unison’s general network management and risk assessment processes as meeting GIP. The Expert Opinion acknowledged Unison’s efforts to

¹ Unison defines ‘Fall Distance Zone’ trees as trees that are not in the Notice Zone or Growth Limit Zone of the overhead assets as defined by the Electricity (Hazards from Trees) Regulations 2003 and are therefore outside the scope of those regulations.

significantly invest in its Smart Grid network since 2009 and noted Unison's accreditation under the ISO: 55001 Asset Management Standard in 2018.

9. However, Strata identified two areas where Unison could improve its performance to meet GIP, specifically:
 - 9.1 While Unison generally had good practices in relation to conducting post-event reviews, Unison missed an opportunity to conduct a post-event review after an MED on 27 March 2018, which was not related to adverse weather but resulted from a fault on one of Unison's feeders. In Strata's view, Unison should have conducted a post-event review in this instance to better understand any potential systemic issues that could apply in other situations.
 - 9.2 Whilst SAIDI related to equipment failure had been decreasing, since 2015 there has been an increase in the number of equipment failure related outages. In Strata's view, Unison should have undertaken analysis on the specific issue of increasing equipment failure numbers in order to better understand and address this issue.
10. While Strata identified the above issues in its Expert Opinion, it noted that these were not significant contributing factors to Unison's SAIDI limit contraventions and acknowledged that the exceedances were caused by the effects of several contributing causes. Specifically, Strata found that the combination of investing in the network, higher than normal MEDs in AP2018, higher than average third-party damage to the network, and changes in work practices made by Unison following the introduction of the Health and Safety at Work Act 2015 were substantial causes of Unison exceeding the reliability limits.

The Commission's view

11. From the information gathered during the investigation, and considering the findings in Strata's Expert Opinion, we are satisfied that Unison had sufficient network management and risk assessment processes at the time the exceedances occurred. We acknowledge that the exceedances of the SAIDI limits in AP2017 and AP2018 were likely to be caused by the effects of the several contributing causes discussed above, and that Unison was not able to take meaningful action to mitigate the effects of most of those factors, as they were largely outside of Unison's control.
12. We recognise that although network investments (the factor within Unison's control) contributed to the exceedances, we conclude that Unison adopted a risk assessment approach to investing for network improvements which met GIP. This approach included keeping detailed documented reasons for deferring replacement capex on a risk prioritisation basis with good contingency planning and good business case studies, planning, and risk management. A specific example of this was Unison's implementation of its Smart Grid system which was intended to deliver reliability benefits by enabling speedier restoration times.
13. However, we note that the Expert Opinion identifies two areas where Unison could improve its performance to meet GIP. These were not causal factors of the contravention, so we note them here for compliance advice. Unison may wish to

consider addressing these two issues to improve its knowledge of its network and to help ensure future compliance. Specifically:

- 13.1 Unison should ensure that appropriate post event reviews are carried out whenever a significant fault occurs and ensure that the review adequately captures lessons learned that may be used to address or prevent subsequent faults; and
- 13.2 Unison should consider undertaking analysis to better understand the increasing number of equipment failure related outages on its network since 2015.

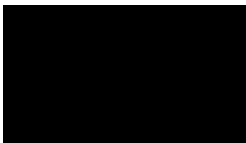
Penalties for contravening the quality standards

14. Where a non-exempt EDB has contravened the quality standards in a Price-Quality Path, section 87 of the Commerce Act 1986 allows the court to impose a pecuniary penalty of up to \$5,000,000. If the court imposes a penalty, then the Commission or affected persons may apply to the Court for compensation under section 87A in respect of the loss or damage resulting from the contravention.

Further information

15. We recommend that Unison regularly reviews its compliance procedures and policies. While we will not be taking enforcement action against Unison in respect of this contravention, our decision to issue compliance advice in this instance does not prevent us from taking higher-level enforcement action in respect of any contraventions in the future.
16. This letter is public information and will be published on our website. We may make public comment about our investigations and conclusions, including issuing a media release or making comment to media.
17. Thank you for your assistance with this investigation. Please contact Stephen Bass, Head of Compliance and Investigations, on (04) 924 3749 or by email at stephen.bass@comcom.govt.nz if you have any questions about this matter.

Yours sincerely



Sue Begg
Deputy Chair

Attachment A – summary of Strata’s view on the reasons provided

1. Extreme weather events:

AP2018 recorded five MEDs in total. Strata agreed with Unison that four out of the five AP2018 MEDs were attributable to adverse weather and that the impact of all five MEDs during AP2018 made a material contribution to its non-compliance.

However, while four out of the five MEDs in AP2018 were weather related, one MED resulted from a fault on one of Unison's feeders attributed to the operation of embedded generators on its network. Even if the adverse weather events had not occurred, the additional MED would have caused Unison to be above the SAIDI limit.

In Strata’s view, this MED may have been avoidable had Unison identified this potential risk and undertaken network studies. Strata also points out that SAIDI attributable to outages other than those on MEDs must also be considered as material contributors to Unison’s non-compliance.

2. Changes to live line practices:

Strata accepted Unison’s explanation that changes to its live line processes from AP2015 to meet Health and Safety requirements contributed towards its exceedances of the reliability limits. In Strata’s opinion, Unison acted in accordance with GIP when addressing health and safety requirements for live line working practices whilst at the same time taking steps to mitigate the adverse impact on network reliability.

3. Changes in manual reclosing practices:

Strata accepted that changes to the Electrical Engineers’ Association (**EEA**) guidelines for Manual Re-closing of High Voltage Circuits Following a Fault will slow supply restoration in some circumstances.² However, in Strata’s opinion, the information and analysis supplied by Unison has been insufficient to support its claim that increased restoration times, due to its compliance with the revised EEA Guidelines, had a material impact on its non-compliance.

4. Outages attributed to external influences:

Strata found that Unison’s data supported its explanation that external influence related outages increased above historical levels in AP2017 and AP2018. In addition, Strata considers it likely that Unison’s investment in smart grid technologies, particularly the ability to sectionalise its network and use automated switching to reduce restoration time, will likely lessen the impact of external interference incidents on SAIDI in future.

5. Fall distance zone trees:

Strata agreed with Unison that the FDZ tree related faults have been a major contributor to its vegetation related SAIDI, and that the increase in FDZ faults in

² <https://www.eea.co.nz/tools/products/details.aspx?SECT=publications&ITEM=2567>

AP2017 and AP2018 materially contributed to non-compliance. In Strata's view, Unison could not have materially reduced the FDZ tree outages by uplifting its vegetation management opex earlier than it did.