BEFORE	**The Electricity Rulings Panel**
UNDER	The Electricity Industry Participation Code 2010, and The Electricity Industry Act 2010, and The Electricity Industry (Enforcement)Regulations 2010
BETWEEN	**The Electricity Authority** *Complainant*
AND	**Transpower New Zealand Limited** *(As Grid Owner)* *Respondent*
IN THE MATTER OF	A complaint made by the Electricity Authority of breaches of the Code by Transpower New Zealand Limited in its capacity as Grid Owner in relation to an event on 25 January 2018.

Decision
(on the papers)

Dated : 27 March 2020

Rulings Panel Members

Peter Dengate Thrush - Chairperson (until 2 March 2020)
Geraldine Baumann - Deputy Chairperson
Nicola Wills - Panel Member
Denis O'Rouke - Panel Member (from 2 March 2020)

Background

1. This matter arises as a result of the laying of a formal complaint by the Electricity Authority under regulation 23(3)(b) of the Electricity Industry Enforcement Regulations 2010, ("the regulations").

2. The case proceeds by way of a notice of commencement dated 15th April 2019, naming Transpower New Zealand ("Transpower") as the respondent [1] in its capacity as a grid owner.

3. The Authority alleges breach by Transpower of clause 4 (4) (a) (ii) of technical code A of schedule 8.3 of the Code ("Clause 4.4" herein). The Authority seeks the following relief:
    1. an order that a public warning or reprimand be issued to Transpower pursuant to s54 (1)(d) of the electricity industry act 2010 ("the Act");

    2. a pecuniary penalty order requiring Transpower to pay $50,000 to the Crown pursuant to s54(1)(d) of the Act;

    3. an order that Transpower pay the Authority the reasonable costs of this proceeding pursuant to s54 (1)(g) of the Act and;

    4. any other order the Rulings Panel considers just.

4. The facts of the outage giving rise to this case are not in dispute. The following description is taken from paragraphs 11 to 14 of the Investigator's Report filed with the Authority's notice of commencement, dated 13 February 2019.

    "*From 16 to 19 January 2018 the grid owner was undertaking work on the Hamilton 110 kV bus zone and circuit breaker fail protection project, and the circuit breaker replacement project. This work involved removing the protection relay for T6 from its case and then putting it back in its case.*

    On 25 January 2018, to prepare for the next stage of the project, the grid owner had to remove Hamilton transformer T9 from Hamilton 110 kV Bus B.

    At 7.48am on 25 January 2018 the grid owner removed T9 from service and T6's protection system operated and immediately tripped T6, which was followed by the tripping of the remaining 110 kV circuits connected to Hamilton 110 KV Bus A. The

[1] Because the investigator's report mentions that Mercury NZ Ltd and Meridian Energy Ltd may have had an interest in this proceeding, the Rulings Panel invited them to make submissions. Both Mercury and Meridian, after reviewing materials filed in the case to date, declined the opportunity to participate in the proceedings.

tripping caused the loss of supply of an estimated 185MWh affecting a widespread area – Hamilton, Cambridge, the Coromandel Peninsula and the wider Waikato area.

The grid owner then stopped all on-site project work in order to restore supply."

5. It is appropriate to quote also from the report Transpower itself produced after the incident as to what it called the "two root causes" for the incident. These relate to the commissioning work done in the period 16 to 19 January 2019, or a week before the incident:

   "*1. The HAM T6 differential protection (Dif1) SR745 relay was inserted into the case, locked and reporting "relay in service", with yellow and blue phase currents only making partial connection between the case and the relay.*
   2. The technician carried out only a cursory look at the relay test values (during stability and on-load tests), and overlooked the Multilin SR745 relay indicating incorrect currents (i.e. reduced current values) on yellow and blue faces. This issue was also not sufficiently challenged and investigated by the Commissioning Engineer." (See page 3).

6. The report also noted:

   "*Although the issue of yellow and blue phase currents only making partial connection between the case and the relay should have been identified during transformer stability tests (and also as part of on- load checks); it is of concern that the relay was inserted into the case, locked and reporting "relay in service", with this issue in place."* (See pages 5/6).

7. Under the heading "*Individual/Team Actions (errors, lapses or violations*), the following further explanation is provided:

   "*During on load checks the Commissioning Engineer indicated that the SEL387 restraint and differential current values looked good however the Multilin SR 745 relay had differing results on the yellow and blue phases, enough for him to question it with the technicians. Although the technician assured the Commissioning Engineer that the results were satisfactory, the project team did not cease work to allow the issue to be investigated further."* (See page 14).

8. In its formal submission to the Rulings Panel, Transpower described the cause of the outage as follows:

   The Event happened because the differential protection 1 Multilin SR 745 relay (Relay) associated with transformer T6 had not been returned to its case correctly on 19 January 2018 following planned maintenance. As a result, there was only a partial connection with the case on two of the three phases."

9. Transpower went on to resile in its submissions from use of the word "overlooked" in its report quoted above. By way of clarification, it explained that the imbalance of the relay was noted by the Commissioning Engineer but it was "… *decided they did not merit further*

investigation because the discrepancy was considered to be within expected limits for the Relay to operate correctly."

10. Power was restored progressively: to the HAM 110 KV bus within 17 minutes; to the HAM 11 KV supply within 19 minutes; to Waihou substation within 50 minutes; to the Waikino substation within 60 minutes and to Powerco at Kopu substation within 66 minutes.[2]

The Breach

11. The relevant provision of the Code provides:

"4. ***Requirements for grid and grid interface***

(4) Each asset owner must ensure that it provides protection systems for its assets that are connected to, or form part of, the grid. Each asset owner must also ensure that as a minimum requirement –

(a) such protection systems support the system operator in planning to comply, and complying, with the principal performance obligations and are designed, commissioned and maintained, and settings are applied, to achieve the following performance in a reliable manner:

(i) electrically disconnect any faulted asset in minimum practical time (taking into account selectivity margins and industry best design practice) and minimum disruption to the operation of the grid or other assets:

(ii) be selective when operating, so that the minimum amount of assets are electrically disconnected:"

12. Had it not been admitted, the Rulings Panel would have found Transpower to have been in breach of clause 4.4 and that the protection system – the Multilin SR 745 - was either not commissioned (which term includes recommissioning) or not maintained (or both) so as to comply with that clause. More than a "minimum number of assets" were disconnected.

13. Transpower admits the alleged breach and opposes neither the determinations as to breach nor the $50,000 penalty sought by the Authority, but does oppose the remaining orders sought by the Authority, namely a public warning or reprimand and payment by Transpower of the Authority's costs. Transpower says that it was not reasonable for the Authority to commence this proceeding and that a warning or reprimand would be unnecessary and/or excessive.

14. Further, Transpower notes, there was no opportunity to settle this matter before proceedings were issued. This arose because no other party joined the Authority's investigation. Under the

[2] See Transpower's report, page 3.

regulations, the Authority is not a party to an investigation where the breach is self-reported [3], and settlements are required to be between parties to an investigation. [4]

The Pecuniary Penalty

15. Despite the fact that Transpower consents to the level of penalty sought by the Authority, the Rulings Panel is required, under section 56 of the Act to consider various matters when making a pecuniary penalty order.[5] These include the seriousness of the breach of the code, having regard to a variety of matters including the severity of the breach, the impact of the breach on industry participants, the extent to which the breach was inadvertent, negligent, deliberate or otherwise, the circumstances in which the breach occurred and any previous breaches of the code by the industry participant.

16. We address each of these below.

Severity of breach.

17. There are a number of possible factors which might go into a consideration of "severity". In the present case, the Authority uses the impact of the breach on consumers as its measure. Transpower does not comment specifically on that and we are inclined to accept it as appropriate in this case.

18. The Authority submitted expert evidence from Dr David Hume, an engineering analyst employed by the Electricity Authority. Although Transpower notes that Dr Hume's evidence was not required to establish the volume of electricity lost through the outage (it being common ground between the parties that this amounted to 185 MWh) Transpower challenged neither his expertise, nor his method of calculation of the economic impact of the outage. Dr Hume's evidence was that the economic loss resulting from the outage was, conservatively, between $3 – $4 million. His calculation, using the prescribed Code value for the unserved energy of $20,000 multiplied by the agreed volume of lost energy (185 MWh), gave an estimate of the value of the economic loss at $3.7M.

19. We accept Transpower's submission that simply calling what Transpower was required to do after the outage as an "emergency" is of little assistance in interpreting this point.

20. The Rulings Panel was provided with a schedule of past breaches by Transpower of this particular provision of the code, as past conduct is a particular matter for us to consider. Our

[3] See r 18

[4] See r 22 (1)

[5] The Rulings Panel has the power under section 54(1)(d) to require a participant to pay a penalty to the Crown of an amount not exceeding $200,000, and under section 56 (1) only on an application made by the Authority, which is the case here.

reading of that schedule, which does not list the impact of every outage, indicates that this outage affected a greater area geographically, and involved a larger volume of lost electricity than all previous breaches for which data is given. We find that because of the widespread nature of the outage, and the value of the volume of electricity lost, the outage can be described as "severe".

Impact on other participants

21. The Authority points to the large area of the North Island which experienced a total loss of supply, including Hamilton, Cambridge, the Coromandel Peninsula and the wider Waikato region. It points out that the Karapiro power station was disconnected meaning that Mercury NZ Limited was unable to cover its position in the market by its own generation. The Rulings Panel accepts there was an undoubted adverse impact on participants in that substantial and populated area.

Inadvertent, negligent, deliberate or otherwise

22. The Authority submits that Transpower's conduct meets a standard of moderate to high level of negligence. The Authority points first to the actual failure of the contact connection in the relay, and the effective decisions by the technician and the Commissioning Engineer on separate occasions not to respond to the information they had. These we can regard as direct causes of the outage, using a "but for" approach. The Authority points to a number of indirect causes including those taken from Transpower's post-event report. These include, without being exhaustive, the time pressure the whole upgrade operation was conducted under, then the various pressure is applied to members of the relevant workforce. The Authority points to these as a problem of managing the work environment in which the Transpower staff were operating.

23. Transpower submits that its level of negligence under those circumstances was "low to moderate". Transpower warns against the problems of using 20/20 hindsight which may have a chilling effect on participants reporting issues on future occasions.

24. Given that the parties agree Transpower's conduct was at least moderately negligent we are not required on this occasion to further characterise the negligence. It is sufficient to say further only that the conduct in question was clearly neither inadvertent, nor deliberate.

Previous breaches by the same participant

25. As noted above, we been provided with a schedule listing previous breaches by Transpower of this provision, or its predecessor. Because a copy of this schedule was not provided to Transpower until after it had filed submissions, Transpower has, with leave, subsequently submitted that some of the breaches disclosed in the schedule are not of Clause 4.4, but Transpower does not identify which or how many of the breach events in the schedule are therefore inaccurate. Transpower also notes that the schedule does not provide full details of the breaches, the basis on which they were closed and whether in any case and Transpower admitted the breach, and to what extent.

26. Given that this information is within Transpower's possession and control, we assume, doing the best we can in the circumstances, that at least a majority of the cases of the breaches presented in the schedule stand for the proposition advanced by the Authority: that they are examples of previous breaches of the relevant Code provision by the same participant.

27. There are 29 breaches described in a period commencing March 2004 and ending March 2018. There have been nine breaches of this particular clause since 2013. Eight of the previous breaches have resulted in a settlement with or in a formal warning from the Authority.

28. Transpower's response is to say that there are "*hundreds of protection operations each year (and) the 29 previous breaches of the clause are not indicative of a systemic problem or otherwise an aggravating factor.*"

29. Given that there have been repetitive breaches of what is essentially a basic safety and core performance issue, and given the background of settlements and warnings that have previously been issued, we find Transpower's past conduct in relation to its obligations under Clause 4.4 to be an aggravating factor.

Whether the participant disclosed the breach

30. Transpower self-reported the breach. We agree with the Authority that this is of little weight and note that not reporting would be a breach of regulation 7.

The length of time the breach remained unsolved

31. The Authority notes that the breach went un-resolved for 6 days. This is not disputed by Transpower, and we add this to the other factors of geographic spread and economic loss in assessing this was a serious breach.

The participant's actions after breach

32. The Authority notes that Transpower has cooperated with the Authority, and has produced the report into the incident mentioned above. That report highlights a number of areas of future improvement to avoid the same or similar breaches occurring in future. The Authority gives credit to Transpower for this, and records that it weighed this in its assessment of the pecuniary penalty sought and, further, is grounds for the Authority not seeking costs of the investigation into the incident from Transpower.

Any benefits from the breach

33. We are told that none have been identified.

Any other matters

34. The parties have not referred any other matters to us, and we have not considered any matters not discussed above.

35. We conclude, as a result of the above analysis, that this was a serious breach, worthy of a pecuniary penalty under section 56 (2). As the Authority points out in its submissions, this is the first time that the Rulings Panel has had to consider a pecuniary penalty under section 54, since the size of the penalty was substantially increased over that provided for in the Electricity Act 1992. Whereas the '92 Act permitted the Rulings Panel to order a pecuniary penalty of $20,000, the limit under the current Act is $200,000.

36. We also accept the general principle, as observed by the High Court in Stumpmaster v Worksafe New Zealand [6] that an increase in penalty level provisions indicates a legislative intention that penalties should generally increase.

37. The Authority summarised previous decisions by the Rulings Panel in which penalties were awarded, noting the respective penalties as a proportion of the available penalty. However, given the very different facts and circumstances of previous cases, we find previous decisions of only moderate assistance.

38. Because this is the first case to come before us involving a penalty regime since the maximum penalty was increased from $20,000 to $200,000 we think it appropriate to set out our thinking on the application of pecuniary penalties.

39. While we give careful consideration to the level of penalty sought by the Authority, which we acknowledge as experienced in assessing such matters[7], the level of penalty is a matter for the Rulings Panel which has statutory duty to consider a range of factors in setting the penalty.

40. We think it might be helpful to set out some guideline bands of pecuniary penalty, based on the assessment of the culpability for the breach. We are guided somewhat in this approach by the approach of the Courts over many years in setting pecuniary penalties in the health and safety jurisdiction, in that broad bands of penalty are established based on the culpability of offenders. We appreciate of course that fines imposed under that legislation require a very different set of considerations overall than apply here.

41. In Department of Labour v Hanham and Philp Contractors Ltd (2008) 6 NZELR 79 (HC) the Full Court was faced with 3 appeals as to penalty under the Health and Safety in Employment Act 1992. At paras [54] to [56] the Court sets out its views on the assessment of culpability by reference to a set of factors not substantially dissimilar conceptually to the ones we are obliged to apply by s 56. At par [57] the Court concludes that it will be helpful to create 3 bands, showing their culpability and the associated penalty:

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[6] Stumpmaster v. Worksafe New Zealand Ltd [2018] NHZC 2020, 3 NZLR 881 at [47] to [49].

[7] We observe also that the Rulings Panel may only order pecuniary penalties on the application of the Authority [see S 56 (1)]

(1) Low culpability a fine of up to $50,000
(2) Medium culpability a fine of up to 100,000
(3) High culpability a fine of between $100,000 and $175000.

42. The court noted that $175,000 was not the maximum allowable fine, (then $250,000) and effectively reserved a further band of "extremely high culpability" for cases tending toward that maximum.

43. The matter of the appropriate bands came before the Full Court again in Stumpmaster, again on 3 appeals as to penalty, under the Health and Safety at Work Act 2015, the successor to the legislation considered in Hanham. The court re-cast the bands appropriate under that legislation as:

(1) Low culpability Up to $250,000
(2) Medium culpability $250,000 to 600,000
(3) High culpability $600,000 to 1,000,000
(4) Very high culpability $1,000,000 [8]

44. Our reading of S.56 of the Electricity Act 2010 is that we have to determine a penalty by reference overall to the "seriousness" of the breach, which are to do by reference first to severity[9] of the breach and the closely related issues of its impact on other parties[10], and the degree of negligence[11]. We are then required to apply such balancing factors as may mitigate (eg. prompt conduct) or aggravate (eg. previous breaches).

45. We consider it helpful to begin the first assessment by assessing the "culpability" factors above by reference to 4 bands suitable for use within our penalty limit:

(1) Low Up to $50,000
(2) Medium Up to 100,000
(3) High Up to 150,000
(4) Very high Up to 200,000 (the maximum)

46. We think the next step is to consider all the mitigating and aggravating factors, making due additions and subtractions as appropriate for relevant conduct.

47. Finally, we think we should step back and make an overall assessment of the penalty to ensure that over-mechanical application of a formula has not resulted in distortion or injustice.

48. Taking that approach in this case, we begin by noting that both parties accepted that the negligence in question was "moderate". We agree and find that this suggests a "medium"

[8] See Para.s [4] and [45] to [54]
[9] S.56 2(a)
[10] S.56 2(b)
[11] S.56 2(c)

level of culpability. The breach, as we have noted above (paras 17-20) was severe, and with a wide impact. Those considerations support a finding that this breach deserves a starting point of $100,000.

49. We have found that Transpower's history of breaches and warnings in this area are an aggravating factor in the amount of an additional $25,000 penalty. In mitigation of that is consideration of Transpower's post-event conduct, which the Authority expressly noted as part of its calculus when seeking a penalty, and in not seeking the costs of the investigation. We reduce the penalty on this account by $50,000.

50. We find no other factors in the statute or the facts of this particular case to materially alter our calculation.

51. Finally, we step back and consider whether the penalty arrived at is appropriate in all the circumstances. This was a grid emergency that lasted nearly two hours. A substantial portion of the country was without power for some time. The agreed economic loss was conservatively estimated at $3-4M. It was caused by negligence in carrying out a repair, and opportunities to rectify it were not taken. Danger signals were missed or not followed up on. There is a previous history of breach. Overall, we think a penalty of $75,000 is appropriate in all the circumstances of the case.

52. Accordingly, there will be an order that Transpower shall pay to the Crown a penalty of $75,000.

A Public Warning or Reprimand

53. We are not inclined to make a specific order in relation to a public warning or reprimand, largely because we consider a reprimand is inherent in the finding of a pecuniary penalty, details of which will be published, and available to the media and in the electricity industry generally.

54. The Authority's submissions in support of the public reprimand were largely the same as its submissions in support of the pecuniary penalty, namely the severity of the breach, the repeated nature of the breach, and that warnings had been previously issued by the Authority. It seems to us that once those matters are taken into account in arriving at a pecuniary penalty, they are effectively quite spent, and cannot then be "reused" in support of the lesser penalty of a reprimand. Accordingly, we accept Transpower's submission that a public reprimand or warning would be unnecessary.

55. The Authority also argued that public confidence in the electricity networks would be better supported or maintained by a reprimand. We disagree, and conclude that greater confidence is created or sustained by a process which results in a substantial pecuniary penalty, rather

than a reprimand. We accept Transpower's submission that this decision will be published on the Authority's website, and will be publicised in material distributed to the industry. Justice will be seen to have been done.

56. Because a public warning or reprimand has not previously been sought, it may be helpful to set out the Ruling Panel's current thinking in relation to that, as a remedy.

57. In our view, a warning or reprimand is a lesser penalty than a pecuniary one, and would be available in circumstances where a sign of disapproval is required, but at a lesser level than when a financial penalty is imposed.

58. In any future case, we would require some guidance by way of submission from the parties as to the mechanism by which any such warning or reprimand should be given. This would differ depending on whether a public or a private reprimand was ordered and it is not currently clear to us what the standard would be by which a private reprimand would become a public one.

59. Finally, we should appreciate submissions on the nature of the wording proposed to be used in any reprimand. It would be helpful to have any party seeking a reprimand to outline the basic text proposed, and for the party affected to be able to comment on the proposed wording.

Costs

60. The Authority seeks two thirds of its costs in relation to these proceedings, (but not relating to the background investigation). Transpower submits that costs should lie where they fall. Transpower notes there was no opportunity to settle this matter before proceedings were issued. This arose because no other party joined the Authority's investigation. Under the regulations, the Authority is not a party to an investigation where the breach is self-reported [12] and settlements are required to be between parties to an investigation. [13]

61. We think Transpower's submission in relation to settlement misconstrues the relief sought: where settlement between the parties might address compensation for losses suffered by participants as a result of the outage, the pecuniary penalty sought under section 54(1)(d) is intended purely to penalise Transpower for its conduct. The fact that affected parties, including Meridian and Mercury have not sought relief by way of settlement negotiations or participation in this case is independent from the issue of penalty.

[12] See r 18

[13] see r 22 (1)

62. Whether or not Transpower had been able to settle the matter with other parties the Authority had a discretion as to whether or not proceed with this case, and elected to bring it. We find that doing so was, in all the circumstances, a reasonable one. There have been a number of past breaches of this provision. Warnings have not prevented a further breach, in circumstances of admitted negligence. The Authority has succeeded, and in the ordinary course, costs should follow the event. We accept the point made in Stumpmaster that costs are not to be reserved for cases "where extra punishment is merited".[14]

63. There is one final matter in relation to costs: Transpower objected to costs in relation to the evidence of Dr Hume. While we appreciate the value of independent and expert evidence, we agree with Transpower that in this case a specific affidavit on the matter was not required. It was common ground that the volume of electricity lost through the outage was 185 MWh. In essence, Dr Hume calculated, using the publicly available information from clause 4 of schedule 12.2 of the Code and knowing the185 MWh figure, that the "value of lost load" ("VOLL) was $3.7 M. We note that Dr Hume is employed by the Authority, so would not be out-of-pocket if an award of costs were not to be made.

64. Subject to that exception, the Authority is entitled to its costs in relation to this proceeding and is invited to file a memorandum within 21 days detailing those costs. In the absence of a tariff specifically applicable, the Authority should frame its costs by reference to the equivalent steps in a proceeding before the District Court.

Orders

1) The Rulings Panel declares that Transpower breached clause 4 (4) (a) (ii) of technical code A of schedule 8.3 of the Code by its conduct leading up to the outage on 25th of January 2018;

2) Transpower shall pay to the Crown sum of $75,000 by way pecuniary penalty;

3) The Authority shall within 21 days of the date of this decision, file with the Rulings Panel and serve on Transpower a memorandum as to its costs in bringing this proceeding, but excluding costs in relation to the preparation of the Hume affidavit of 14 June 2019. Transpower will have 14 days from the date of receipt to file and serve any memorandum in response.

65. Counsel and the parties are thanked for their helpful submissions.

[14] At [107].

John O'Sullivan

66. Members of the Rulings Panel also wish to take this opportunity to note the passing of their longest-standing member, John O'Sullivan, during the course of this proceeding. John was appointed a member of the tribunal hearing this matter, but died after submissions were filed, before a decision was issued. John contributed enormously to the work of the Rulings Panel. The Rulings Panel took great confidence and comfort in his wealth of industry experience, and we will miss his contribution to the work of the Rulings Panel. He was dedicated, diligent and effective, and in many ways the institutional memory of the Rulings Panel, because of his long service. RIP.

Issued 27 March 2019

Geraldine Baumann
Deputy Chairperson, Electricity Rulings Panel