

Annual review of the system operator's performance

Summarising the Authority's annual review of
system operator performance

10 March 2015

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1 The Authority has reviewed the system operator's performance for the year to 31 August 2014

- 1.1.1 The Security and Reliability Council (SRC) functions under the Electricity Industry Act 2010 include providing advice to the Electricity Authority (Authority) on the performance of the system operator.
- 1.1.2 The Code requires both the system operator and Authority to perform an annual review of the system operator's performance.¹
- 1.1.3 The system operator's annual self-review for the year ending 31 August 2014 was considered by the SRC at its October 2014 meeting.
- 1.1.4 The Authority's own review of the system operator's performance ("the review") covers the same period as the system operator's self-review. The review was largely completed last year. However, the Authority had been awaiting the outcome of its enquiry into the 12 November 2013 AUFLS event² before finalising its review. This was because the enquiry outcome has the potential to impact the Authority's conclusions about whether the system operator had achieved its principal performance objectives.
- 1.1.5 The Authority's Market Performance team has almost completed its enquiry into the AUFLS event and is finalising its report. The SRC will consider the outcomes of that enquiry at its March 2015 meeting. The review is therefore in final draft form, and may require minor amendments following the SRC's consideration of the AUFLS event report.
- 1.1.6 The purpose of this paper is to summarise the findings of the review, so as to obtain any feedback from SRC members on the performance of the system operator. This paper is intended to be an extensive summary of the review, reducing the need for SRC members to read the full review. The full review is attached as a reference should there be matters that members wish to delve into in more detail.
- 1.1.7 The Authority's review findings are generally very positive.
- 1.2 The Authority commends the system operator for its work on agreeing a joint objective**
- 1.2.1 On 2 July 2014 the Authority and the system operator agreed a relationship charter. The charter sets a joint objective of delivering long-term benefits to New Zealand consumers in the course of operating and developing the broader electricity market. The joint objective aligns with the Authority's statutory objective.
- 1.2.2 The joint objective will be achieved by:
- a) promoting competition, for example by removing technical barriers to entry and participation in the wholesale market
 - b) ensuring reliable supply, for example by efficiently balancing risk and the costs of risk reduction and by taking advantage of new technologies as they become commercial

¹ The requirements of both the system operator and the Authority with respect to the annual processes to review the system operator's performance are specified in clause 7.11 of the Code.

² An event on 12 November 2013 resulted in the first block of North Island automatic under-frequency load shedding (AUFLS) tripping.

- c) promoting efficient operation of the New Zealand electricity industry, for example by delivering an efficient and effective system operator service and by developing and implementing improvements in the market.

- 1.2.3 The relationship charter also sets out a number of guiding principles for engagement between the two organisations.
- 1.2.4 This is the first relationship charter between the Authority and the system operator. The charter is intended to ensure that the Authority and the system operator effectively deliver together on joint objectives across day-to-day, market design, and compliance work. The charter will help both organisations work effectively and efficiently developing and delivering the system operator service and improvements to the wholesale market over time.
- 1.2.5 The Authority and system operator will be renegotiating the system operator's service provider agreement during the next performance review period. The new agreement is expected to reflect the joint objective.

1.3 The system operator has generally met its principal performance obligations

- 1.3.1 Clause 7.2 of the Code sets out the system operator's principal performance obligations (PPOs). In summary, the PPOs require the system operator to act as a "reasonable and prudent system operator" with the objective of:
 - a) dispatching assets made available to avoid cascade failure of the power system
 - b) ensuring frequency remains within prescribed upper and lower limits, that the number and duration of frequency fluctuations (outside the normal band) stay within specified limits
 - c) if requested, identifying the cause of any problem with standards not being met at any point of connection to the grid for harmonic levels, voltage flicker levels or negative sequence voltage, and take reasonable and practical action as requested to resolve the problem.
- 1.3.2 The review concludes that the key PPOs have generally been achieved, but notes that the enquiry into the 12 November 2013 AUFLS event is yet to be finalised.
- 1.3.3 A similar North Island AUFLS event occurred less than two years earlier on 13 December 2011, when Huntly Power Station tripped. The recent rate of these events has exceeded the statistical equivalent referenced in the Code of one in any five year period. However, if measured over longer timeframes (10+ years) the excursion rate is within the targets. Furthermore, the targets are specifically framed with an overarching obligation for the system operator to "act as a reasonable and prudent system operator *with the objective of*" [emphasis added] ensuring the targeted limits are achieved.
- 1.3.4 However, the Authority has concerns about whether the targets for frequency excursions are the most appropriate mechanism to promote an efficient level of reliability.³ The number of excursions is largely out of the control of the system operator, whereas the system response to an excursion is a direct consequence of the system operator's procurement of reserves. The system operator's performance is better measured by the reserve management objective set out in Schedule 8.4 of the Code. As part of the renegotiation of the system operator's service provider agreement, robust performance metrics are expected to be established.

³ The Authority has a pending project on its Work Programme to address this concern. It is item 3.32 in the 2014-15 Work Programme available from <http://www.ea.govt.nz/about-us/strategic-planning-and-reporting/our-work-programme/>

1.4 The system operator is maintaining a quality supply to consumers and meeting its obligations

- 1.4.1 The Authority's review outlines that the system operator:
- a) managed a number of challenging situations during the review period
 - b) improved its approval process for drop-load tests, after shortcomings were highlighted by a Rulings Panel decision into an event that occurred on 1 May 2013
 - c) successfully exercised its security of supply role
 - d) demonstrated a strong commitment to compliance, and appropriately addressed an issue around its review and audit processes when an error occurred.

1.5 The system operator has been actively engaged with the Authority in improving the working relationship

1.5.1 The review acknowledges that the review period was one of significant positive change within the system operator. The system operator responded to, and acted on, the recommendations the Authority made in the 2012-13 review. The Authority considers that the system operator's performance improved over the course of the review period.

1.5.2 Specifically, the review highlights:

- a) the strategic alignment between the two organisations that has been created by the new relationship charter, which establishes an important foundation for a more effective relationship
- b) that the Authority and the system operator have adopted new processes to improve joint project planning, which are bedding in and proving effective
- c) that improvements were observed relating to the system operator's internal restructure
- d) that the system operator provided a high quality of professional services to the Authority
- e) that the system operator performed well under the system operator's service provider agreement during the period.

1.6 The system operator can make some further improvements to its performance reporting

1.6.1 The review commends the system operator for the valuable improvements it made to the structure and format of its self-assessment of its performance in 2013/14. However, the Authority made the following four recommendations to the system operator for it to further improve its reporting of performance.

- a) the system operator should consider whether self-breaches can be categorised in more detail and the analysis can be included in future self-assessments
- b) future self-assessments should specify whether requests have been received relating to harmonic levels, voltage flicker levels, and negative sequence voltage and, if so, how they were dealt with
- c) future self-assessments should specify whether frequency time error was eliminated at least once every day and if not, why not

- d) the system operator should consider whether the SRC's suggestions (as made by the SRC at its October 2014 meeting) can be included in future self-assessments.

- Q1.** Does the SRC have any views on the performance of the system operator that it would like to report to the Authority Board?
- Q2.** Are there any matters that the SRC would like the secretariat to investigate for a future SRC meeting?

[Post-script note: The SRC received the *draft* version of the Authority's annual review of the system operator's performance for 2013-14. Rather than have drafts in public circulation, this review has been omitted from this published version of the SRC paper. When published, the final version of the review is available from <http://www.ea.govt.nz/operations/market-operation-service-providers/system-operator/annual-system-operator-reviews-and-assessments/>]