

# System Operator Performance Review and Assessment

1 March 2006 to 31 August 2007

December 2007

## **Executive summary**

The Electricity Commission has a legal obligation to review and assess the performance of the System Operator every financial year. The review in this report covers the 18-month period from 1 March 2006 to 31 August 2007. The System Operator self-review report is a key input in developing this review.

The performance of the System Operator has been reviewed and assessed under headings representing the main functions of the System Operator. Certain assumptions have been made based on the knowledge of Commission staff and the circumstances of the review period. The main purpose of the review is learning and continuous improvement.

In working with the System Operator for another year and beyond, there are a few key messages conveyed in this report. The primary message is that the System Operator has performed its core functions to a high standard and the Commission expects this to continue. Secondary messages mainly revolve around the effect of resourcing issues on the advisory services provided by the System Operator.

## **Glossary of abbreviations and terms**

<b>AUFLS</b>	Automatic Under-frequency Load Shedding System
<b>Board</b>	Electricity Commission Board
<b>Commission</b>	Electricity Commission
<b>CQAG</b>	Common Quality Advisory Group
<b>Minister</b>	Minister of Energy
<b>MSP</b>	Market Systems Project
<b>POCP</b>	Planned Outage Co-ordination Process
<b>PPOs</b>	Principal Performance Obligations
<b>Regulations</b>	Electricity Regulations 2003
<b>Rules</b>	Electricity Governance Rules 2003
<b>SOSPA</b>	System Operator Service Provider Agreement
<b>SSF</b>	System Security Forecast

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## **1. Introduction and purpose of this report**

### **Introduction**

- 1.1 The Electricity Governance Regulations 2003 (Regulations) and the Electricity Governance Rules 2003 (Rules) require the Electricity Commission (Commission) Board (Board) to review the performance of the System Operator once every year.

### **Purpose of this report**

- 1.2 The purpose of this paper is to provide a review and assessment of the performance of the System Operator in accordance with the requirements of the Rules and Regulations.

## **2. Background**

### **Process**

- 2.1 This review is the third under the market governance arrangements. The review covers the period from 1 March 2006 to 31 August 2007.<sup>1</sup>
- 2.2 The System Operator provides monthly performance reports and also provided the Board with its own annual review of its performance on 27 September 2007. The System Operator is required to present this self review to the Board no later than 30 September in each year (rule 14 of section II of part C of the Rules).
- 2.3 The self-assessment provides a commentary on many aspects of the System Operator's performance and is an important input into this review by the Commission.

### **Legal requirements**

- 2.4 Provisions relating to the review process and outcome by the Board for the System Operator's performance are set out in both the Regulations and the Rules.

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<sup>1</sup> Due to a change in rule 14 of the Rules that came into force on 8 June 2006 to align the assessment period with the period covered by the policy statement ending 31 August, the period covered by the current performance review is 18 months instead of one year. The system operator was granted an exemption on 25 September 2006 from Rule 14 of section II of part C in its new form, requiring an annual self review by 30 September, due to the short duration the required review would have covered. Hence, by including the exempted six months, this report is covering an 18-month period instead of 12 months as an exception.

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- 2.5 Regulation 47 requires the Board to review the performance of the System Operator at least once in each financial year and the review must concentrate on the System Operator's compliance with:
- a. its obligations under the Regulations and Rules;
  - b. the operation of the Regulations and Rules;
  - c. any performance standards agreed between the System Operator and the Board; and
  - d. the provisions of the System Operator's service provider agreement with the Board.
- 2.6 Regulation 48 requires the Board to take into account of the following matters when conducting the review:
- a. the terms of the System Operator agreement;
  - b. the reports from the System Operator to the Board;
  - c. the performance of the System Operator over time in relation to part C of the rules;
  - d. the extent to which acts or omissions of other parties have impacted on the System Operator's performance;
  - e. reports or complaints from any person;
  - f. the fact that real time co-ordination of the power system involves a number of complex judgments and inter-related incidents;
  - g. any disparity of information between the Board and the System Operator; and
  - h. any other matter the Board considers relevant.
- 2.7 Regulation 49 requires the Board to publicise (on its website) all self-review reports it receives from the System Operator that are required under regulation 45 or the Rules within five business days of receiving them.
- 2.8 Rule 14 of section II of part C of the Rules requires the Board to review and assess the performance of the System Operator in carrying out its functions with respect to the policy statement in the 12 month period ending 31 August. The Board's review and assessment of the System Operator are required to be published within 10 business days after the Board meeting at which the review and assessment is carried out.
- 2.9 In its Statement of Intent 2007-2010, the Commission has set some performance measures on itself under the output class of "governance and market operations". One of those measures in the area of electricity system and market operations is

to complete an annual performance review of the System Operator's performance within three months of receipt of the System Operator's self-review report.

### **3. Analysis framework**

#### **Approach used to conduct the review**

- 3.1 In completing the review and assessment of the performance of the System Operator, the Commission has followed the requirements of the Regulations and the Rules and, in particular, the matters the Board is required to take into account. This covers the System Operator's obligations under the Regulations and Rules, particularly part C on common quality and part G on trading arrangements.
- 3.2 The performance of the System Operator has been reviewed and assessed under the main functions of the System Operator as follows:
- (a) principal performance obligations in terms of meeting any relevant duties and functions under part C of the Rules for both policy and implementation;
  - (b) procurement of ancillary services and contract management;
  - (c) system security planning and performance;
  - (d) market operations in terms of meeting the dispatch objective and any relevant duties and functions under part G of the Rules;
  - (e) market governance in terms of rule compliance and development initiatives;
  - (f) meeting the requirements of service provider agreements;
  - (g) other duties and roles; and
  - (h) stakeholder relations.
- 3.3 The review process covers, in good faith, all aspects, both positive and negative, of the System Operator's performance with the aim of providing constructive feedback for the purpose of continuous improvement.
- 3.4 Although the review contains a subjective judgment of some aspects of the System Operator's performance, the review includes some examples that demonstrate the performance experienced within the review period wherever possible. While the examples may provide some evidence of performance, they are not intended to be taken as indicative of the System Operator's performance assessment in a certain area but rather the Commission's knowledge and perception of what occurred in that area of review.

- 3.5 In preparing this review, the Commission staff developing this report conducted internal meetings to elicit feedback from the different Commission groups who regularly work with the System Operator.
- 3.6 The System Operator has been given the opportunity to comment on this performance review report and any views expressed have been taken into consideration.
- 3.7 The review should be read in the context of the following environmental factors:
- (a) the review period was a very busy time in which a considerable number of the System Operator resources have been diverted to development initiatives, especially the Market Systems Project (MSP), for the purpose of process improvement;
  - (b) the System Operator faced major events in the review period beyond what is normally planned for (mainly due to non-compliance of assets), as well as successive security of supply incidents (due to unusual circumstances) that required the invoking of emergency measures. Both types of situations (mentioned later in this report under the System Security section) require the diversion of already busy staff to investigate the causes; and
  - (c) the commissioning of the Huntly unit 5 (e3p) generator in the North Island, which is considered large by New Zealand standards and required a high degree of coordination and planning during commissioning between the asset owner (Genesis Power), the System Operator and other affected participants.

### **Performance review and assessment**

- 3.8 In conducting the review and assessment of the System Operator's performance during the period 1 March 2006 to 31 August 2007, the Commission has regard to the System Operator's self-review and such other matters that are considered relevant by the Board and to the best of the Board's knowledge.
- 3.9 The following paragraphs are grouped under different headings reflecting the various functions stated in paragraph 3.2.

### **Principal Performance Obligations and relevant functions under Part C**

- 3.10 The System Operator manages two components to fulfil its Principal Performance Obligations (PPOs). The first component is setting the policy and means to comply with those obligations in the form of the Policy Statement. The second component is the measures taken by the System Operator to meet those obligations.

### ***Policy***

- 3.11 The main vehicle for the policy by which the System Operator meets its PPOs is the Policy Statement, which is inserted into the Rules as schedule C4 of part C. Other rules in part C of the Rules define some System Operator duties and functions.
- 3.12 The Policy Statement is a core document in the Rules that the System Operator is required to review annually.<sup>2</sup> Its review and consultation require a considerable amount of time and effort. During the period of this review and assessment, the System Operator has reviewed the document twice (for 2006/2007 and for 2007/2008).
- 3.13 The Policy Statement describes the policies and means by which the System Operator intends to observe and comply with its PPOs in the next twelve months. It also outlines the policies and means by which scheduling and dispatch are adjusted to meet the dispatch objective.
- 3.14 The System Operator submitted the draft Policy Statements on time, and is to be commended for following an initial consultation process with market participants in preparing the drafts as required under the Rules. In the case of the 2007/2008 Policy Statement review, the System Operator also provided a valuable analysis outlining the description, purpose, alternatives, benefits, and costs for each of the changes made to the draft Policy Statement. This analysis was well appreciated by the Commission as it assisted it in developing its statement of proposal for the draft Policy Statement more accurately.
- 3.15 Subsequently, the System Operator listened to and took into consideration the advice of submitters and the Commission during the formal consultation process conducted by the Commission. Furthermore, the System Operator was available to address any concerns with the new Policy Statements at the Common Quality Advisory Group (CQAG) meetings prior to the Commission recommending the new Policy Statement to the Minister of Energy (Minister) and the System Operator agreed on further minor changes as a result. This cooperative attitude and collaborative approach is appreciated by the Commission as it reflects a thorough consultative approach.
- 3.16 Overall, the Commission is pleased with the process by which the industry and the System Operator reviewed the Policy Statements to improve the policies and means by which the System Operator intends to comply with the PPOs. These reviews produced residual issues that could not be accommodated in the review timeframe and will be addressed in the next annual review or, where necessary, investigated more widely by the Commission. The Commission has recently set up an ongoing formal process for addressing and publishing all these residual issues in addition to other similar issues from previous annual reviews.

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<sup>2</sup> This requirement is contained in rule 10 of section II of part C of the Rules.

### *Implementation*

- 3.17 Under rule 2.1 of section II of part C of the Rules, the System Operator must act as a reasonable and prudent System Operator to avoid cascade failure of assets that would result in the loss of demand, arising from either frequency or voltage excursions, or from supply and demand imbalances. During the review period, there have been no blackouts or frequency excursions large enough to cause the automatic under frequency load shedding relays to disconnect demand.
- 3.18 The System Operator is also required to meet and plan to meet the frequency obligations set out in the Rules. Frequency excursions were maintained within the annual frequency limits specified in rule 2.2.3 of section II of part C of the Rules and no excursions occurred below 48 Hz or above 52 Hz in either island. Also, the aggregate rate of frequency fluctuations for periods longer than 12 months did not exceed any of the limits set by rules 2.2.3, 3.1 or 3.2 of section II of part C.
- 3.19 With regards to managing time error, there was only one breach of the time error exceeding the +/- five second limit specified under rule 2.2.5 of section II of part C of the Rules, and there were no instances where the daily time error elimination required under rule 2.2.6 was not achieved. This breach of the frequency time error limit occurred in the North Island in August 2007 where it exceeded the threshold of five seconds for 15 minutes.
- 3.20 Not meeting the time error correction objective should be taken seriously because that is considered a measure of power quality. If resetting the time error once a day is not achieved, a large cumulative error can occur. However, technically a single instance of time error exceeding its threshold did not pose a security or market risk and resetting of time errors was achieved once a day during the review period, as reported by the System Operator. The Commission acknowledges the thorough investigation the System Operator undertook into the cause and the corrective actions it intends to implement, as stated in its self-review.
- 3.21 The System Operator in its self-review report stated that neither the 220kV nor the 110kV permissible voltage levels (of 90% or 110%) throughout the transmission grid had been exceeded during the review period. Although keeping within the voltage limits is not part of the PPOs, the System Operator adhering to these limits makes sure that it complies with the security policy, as referred to in rule 4.1.1 of schedule C4 (policy statement) of part C, with the intention that assets of the grid owner, generators, and distributors do not exceed their capability, normally without demand shedding being required.

### Ancillary Service Procurement

- 3.22 The System Operator determines the requirements for, and purchase and coordination of, ancillary services in order to operate and manage the power system in real time. Ancillary services coordinated in real time include instantaneous reserve, frequency keeping, voltage support, over frequency reserve, and black start.
- 3.23 With regards to policy, the Procurement Plan is the document which sets out the principles and means by which ancillary services are purchased. As for implementation, the System Operator enters into and manages contracts with ancillary service agents to provide ancillary services. Also, it implements, maintains, and operates systems directly related to the provision of such services.

### *Policy*

- 3.24 The Procurement Plan (inserted into the Rules as schedule C5 of part C) specifies, for each ancillary service, the principles that the System Operator will apply, and outlines the process it will follow, in making an assessment of the quantity required to be purchased.
- 3.25 The Procurement Plan is a core document in the Rules that the System Operator is required to review annually.<sup>3</sup> Its review and consultation require a considerable amount of time and effort. During the period of this review and assessment, the System Operator has reviewed the document twice (for 2006/2007 and for 2007/2008).
- 3.26 The System Operator has submitted the draft Procurement Plans on time, and is to be commended for following an initial consultation process with market participants in preparing the drafts as required under the Rules.
- 3.27 Subsequently, the System Operator listened to and took into consideration the advice of submitters and the Commission during the formal consultation process conducted by the Commission. Furthermore, the System Operator was available to address any concerns with the new Procurement Plans at the CQAG meetings prior to the Commission recommending the document to the Minister and the System Operator agreed on further minor changes as a result. This cooperative attitude and collaborative approach is appreciated by the Commission as it reflects a thorough consultative approach.
- 3.28 Overall, the Commission is pleased with the process by which the industry and the System Operator reviewed the Procurement Plans to improve the principles and means by which the System Operator will purchase ancillary services. Similar to the Policy Statement review process, the Commission notes that there

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<sup>3</sup> This requirement is contained in rule 4 of section IV of part C of the Rules.

have been a small number of residual issues that could not be accommodated in the review timeframe provided for in the Rules and subsequently these issues have been added to the Commission's formal process for addressing and publishing this type of residual issues.

- 3.29 To facilitate a more timely and informed review process the System Operator has agreed to provide a cost-benefit analysis from the System Operator's perspective for the key changes in the procurement plan similar to what has been provided by the System Operator in the policy statement review process. This analysis greatly assists the Commission in its own assessment of the costs and benefits of the changes and provides a smoother consultation process as a result.

### ***Implementation***

- 3.30 Entering the fourth round of procurement contracts, the System Operator has established mainly straight forward contracts, which are currently in a settling in period. This could be implicit in the relative stability of the Procurement Plan and consequently reflected in agreeing long term contracts between the System Operator and ancillary service providers.
- 3.31 The System Operator has so far been able to procure sufficient quantities of ancillary services in general. Even though the System Operator does not have mandatory frequency keepers available at all times, the System Operator has contingency measures in the unlikely event that no frequency keeper makes itself available.
- 3.32 With regards to quality, the System Operator actively monitors the performance of ancillary service providers and in some instances of recurring non-compliance takes actions to ensure that the ancillary service providers' performance meets their obligations.
- 3.33 In particular, the System Operator is commended for its efforts in this area, especially for visiting the service provider sites, increasing awareness of the importance of accurate procurement of instantaneous reserve, and working with the providers towards solutions that better enable compliance.
- 3.34 The Commission overall is pleased with the contract management of the procurement process but would like to encourage the System Operator to consider more active contract management and enforcement of contract terms (as per rule 6 of section IV of part C of the Rules). However, it is encouraging to see examples of non-compliant ancillary service providers voluntarily suspending their offers and self breaching on non-delivery of contracted quantities, a sign that the continuing efforts of the System Operator may have played a major part.

### **System Security**

- 3.35 In dealing with system security, the System Operator engages in several planning activities in different time frames, which are important in maintaining the integrity of the power system.

### ***Long-term Planning***

- 3.36 For its long-term planning, the System Operator conducts studies that culminate in the production of the System Security Forecast (SSF), which is based on the demand forecast for the following 10-year period.
- 3.37 Producing the SSF document is a significant piece of work that the System Operator is regularly required to carry out. It consists of demand and supply forecasts and power system modelling to estimate the System Operator's ability to meet its PPOs over the next 10 years. Rule 15 of section II of part C of the Rules requires the System Operator to prepare, publish, and provide to the Board a system security forecast once every two years. It is also required to revise the forecast every six months if, in the reasonable opinion of the System Operator, changes to the power system warrant a revision.
- 3.38 The System Operator produced its first SSF on 1 December 2004. During the review period, the System Operator submitted a new SSF in December 2006 and an amendment to the SSF in August 2007.
- 3.39 The new December 2006 forecast has an increased short term focus for the next three to five years. As stated in the SSF, "this change is based on feedback from industry participants that an in depth analysis of shorter term capability would be of value". The assumptions of the short-term focus are based on historic trends of demand as compared to growth factors applied to recorded historic data in the case of the long term focus.
- 3.40 The Commission is pleased with the on-going quality and form of the work produced by the System Operator to produce the SSF, especially with the new CD-ROM format that is more useable, cost-effective and friendly to the environment.

### ***Short-term Planning***

- 3.41 The System Operator has demonstrated leadership and has supported initiatives to deal with system security.
- 3.42 The System Operator has led, and continues to lead, forums to provide advice and coordinate measures to resolve regional security issues in both the upper South Island and upper North Island areas.

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- 3.43 Commission staff participate mainly as a listening body to these security teleconference forums and are generally satisfied with the information provided in those regular forums. The feedback provided by participants, and alert signals resulting from the discussions, are very helpful in two ways. Firstly, they help identify the likely impacts and contingency plans for planned outages so that the industry is prepared. Secondly, they provide useful feedback on how the system performed when compared to the forecast.
- 3.44 In August 2006, the System Operator facilitated an industry review on the Planned Outage Co-ordination Process (POCP). Also, it established a POCP website to host the prototype outage database and a detailed User Guide to the POCP. The system operator is to be commended on its voluntary efforts in the outage planning area.
- 3.45 The System Operator also provided valuable support to security forums led by the industry, namely the CEO forum-sponsored initiative for dry year planning and the national winter group formed after the 19 June 2006 event. As a result of those forums, the System Operator is to be commended for fast-tracking actions such as implementing an automated standby residual shortfall check (tools and notices).

### ***Real-time***

- 3.46 The System Operator faced various system events, of which some are of greater significance than others because of their national or regional impact. Grid emergencies were declared and managed successfully by the System Operator during the review period.
- 3.47 Even though the System Operator has managed all the events in the review period without serious system security implications, it is pleasing to see that the System Operator has initiated a project to improve the format and information contained in grid emergency notices, which is expected to be completed by the end of 2007.
- 3.48 The System Operator has also faced major system events that went beyond what it normally plans for and as a result of assets not behaving in accordance with their stated capability (examples are provided in pages 10 and 11 of the System Operator's self-review). Although the Automatic Under-frequency Load Shedding System (AUFLS) was not triggered (when it should have according to the output of the models used), the behaviour of the power system in response to these larger than planned for events highlights the importance of following a reasonable and prudent approach in procuring reserves by the System Operator as well as service providers fully complying with the delivery of offered reserves.
- 3.49 In addition, the System Operator had to operate through successive security of supply incidents (due to unusual circumstances) that required the invoking of

emergency measures, namely on 12 and 19, June 2006. The System Operator is to be commended on those occasions for producing useful information to the industry by way of notices. The failure on 19 June of the faxination system to disseminate timely notices is a concern that is being addressed.

- 3.50 Although the causes of such incidents may be completely outside the control of the System Operator, the Commission encourages the System Operator to continue learning lessons from such incidents by way of investigations and analysis.

### **Market Operations and relevant functions under Part G**

- 3.51 Part G of the Rules provides for the processes that make a functioning wholesale market. In particular, section III (Scheduling and Dispatch) and schedule G6 of part G deal with the System Operator obligations of preparing the pre-dispatch and dispatch schedules, implementing the dispatch schedules and preparing and publishing relevant prices, flows, and formulas. The System Operator is also involved in the development and implementation of other areas of part G in various capacities.

#### ***Scheduling and Dispatch***

- 3.52 A primary criterion for preparing dispatch schedules is the System Operator's dispatch objective; to maximise for each half hour the gross economic benefits to all purchasers of electricity at grid exit points, less the cost of supply and ancillary services subject to certain conditions.
- 3.53 The Commission is satisfied that the System Operator has performed its duty to meet the dispatch objective during the review period. One allegation of a breach to the contrary in March 2006 has not been pursued and the alleging party was satisfied by the outcome of the investigation.
- 3.54 A direct and significant achievement by the System Operator from one of the recommendations in last year's annual review and assessment was the reduction in the number of breaches of rules in schedule G6 relating to the updating of grid information in dispatch schedules.
- 3.55 Given that other parties' failures to comply with dispatch instructions should be taken seriously and can reflect on the System Operator's ability to meet its dispatch objective, it is pleasing to see that the breaches of the requirements to acknowledge dispatch instructions have reduced significantly. However, the number of failures to comply with dispatch instructions is still fairly high on a pro rata basis (compared to last year's reporting period). The Commission acknowledges that failures to comply with dispatch instructions fall outside the System Operator's control, and commends the System Operator's prudence in ensuring that generators treat these incidents of non-compliance seriously. The

Commission is continuing the process of fact finding and investigations with regards to these breaches.

### ***Development Initiatives***

- 3.56 The Commission has set up a “pricing process improvement project” which, with a significant contribution from the System Operator, will address, among numerous other issues, certainty and accuracy of wholesale market prices. Given the resource constraints that the System Operator faced during the review period, the Commission is very appreciative of the contribution by the System Operator, and looks forward to the continuation of its support to help develop the consultation paper on this project.

### ***Rule Changes***

- 3.57 The System Operator has provided assistance to the Commission on the development of several rule changes and several Commission development initiatives over the review period which requires a juggling of priorities for limited resources.
- 3.58 On occasions, the Commission is required to work through a rule change process fairly quickly in order to remove an undesirable market situation. In doing so, the implementation of the change often requires some modifications to the System Operator’s tools and processes. Whilst the Commission acknowledges that the System Operator has been operating with tight resources during the review period and that all modifications to its systems need to pass through a high degree of quality assurance, too long a delay in completing those modifications or introducing new rules could have a detrimental effect on market operations.
- 3.59 To minimise the chance that such potential situations occur, the Commission recommends that, where necessary, the System Operator explore all possibilities, including implementing low risk interim solutions, instead of running the risk of long delays in the implementation of final solutions. Notwithstanding that there may be some slight risk to the System Operator from taking fast action, the System Operator needs to take into account the priority of the work to the industry and the Commission. The Commission will work with the System Operator to insure the best implementation of such future rule changes.

### **Market Governance**

- 3.60 The System Operator has been active in a number of operational matters and development initiatives in the area of compliance with the Rules and Regulations.

### **Rule Compliance**

- 3.61 The System Operator's performance in relation to compliance matters is generally of a high standard. All breaches that the System Operator has become aware of are reported, including self-notified breaches.
- 3.62 The System Operator is to be commended for working on and reducing the number of self-notified breaches during the review period. While it is generally considered that a reduction of breaches is a healthy signal, the System Operator is encouraged to continue self-reporting breaches, demonstrate learning from its own mistakes, and to take corrective actions, as a means of self-regulation.
- 3.63 The Commission has sometimes experienced delays in receiving self-reported breaches by the System Operator. Although this matter can be viewed as minor, the implication of such delays between the event and its reporting is a source of concern that some serious issues could be discovered had it been reported earlier, let alone the elapsed time makes it harder for the processes of fact finding or investigation conducted by the System Operator or the Commission to proceed smoothly.
- 3.64 The Commission acknowledges that the System Operator wants to properly identify and investigate each potential breach before it is notified as a breach but the Commission would like to see improvement in this area.
- 3.65 It is pleasing to see that there were no breaches against the System Operator alleged by other participants in the last twelve months of the review period. This reflects the high importance the System Operator puts on its compliance with the Rules and avoiding any breaches. If alleged breaches do occur, the Commission encourages the System Operator to be open in working through the breach allegation details for the purpose of education for the industry and process improvement. Albeit in some cases, such as for the 19 June 2006 unusual circumstances, it is inevitable that there will be a heightened activity of breach allegations (with or without significant related impacts).
- 3.66 The System Operator has been cooperative in providing information in relation to fact finding and investigation of breach allegations. The quality of written reports is generally good but the Commission considers there is room for improvement where all information is provided at the beginning of the fact-finding or investigation process to avoid unnecessary correspondence.
- 3.67 It is understood that delays responding to requests for information in several occasions may be attributed to shortage of resources. The Commission relies on timely responses for information and expects the System Operator to assist the Commission in meeting its statutory timeframes.

### ***Development Initiatives***

- 3.68 During the reporting period, the System Operator published a discussion paper on the compliance regime on its website. The Commission is happy to work with the System Operator to improve the operation of the compliance regime and has begun its own review on this matter. The System Operator is encouraged to use this vehicle to raise its concerns to reduce the management and reporting burden of the breach process.
- 3.69 Within the System Operator's Assurance Framework, the System Operator has developed two Annual Assurance Plans to conduct and identify assurance reviews. The System Operator is to be commended for undertaking and completing reviews in several areas of the System Operator's business activities.

### **Service Provider Agreements**

#### ***General***

- 3.70 The System Operator enters into service agreements with several entities, namely the Commission with the System Operator Service Provider Agreement (SOSPA), the Pricing Manager with the Pricing Services Agreement and the Wholesale Information and Trading System service provider with the COMIT System Agreement.
- 3.71 During the review period, the System Operator managed its service agreements well and put measures in place to establish temporary extensions when agreements expired. No major issues have been raised with regards to the service agreements in place. The System Operator is discussing with the Commission the terms of access to the information system<sup>4</sup> by the System Operator to be able to meet its obligations under the SOSPA.

#### ***System Operator Service Provider Agreement (SOSPA)***

- 3.72 The SOSPA addresses the issues that are contractual and structural in nature between the Commission and the System Operator. In late 2006, the System Operator notified the Commission that it wished to vary certain terms included in the SOSPA. Early in 2007, the two parties commenced discussions that are continuing at the time of writing this report and, as such, it is inappropriate that this report attempt to address any of the issues raised in the discussions until they are completed.
- 3.73 Under the SOSPA, the System Operator has two main obligations pertinent to this review, the Disaster Recovery plan and the Warranties.

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<sup>4</sup> The information system is defined in part A of the Rules as: "the system or systems required for the conveyance of information between persons in accordance with the **rules** as may be approved from time to time by the **Board**".

- 3.74 With regards to the Disaster Recovery Plan, the System Operator has an obligation to have in place and comply with a number of arrangements and procedures relating to backups and disaster recovery. The System Operator notified the Commission in its self-review that it found no need to alter the current System Operator Disaster Recovery Plan but it made changes to the Business Continuity Plan in August 2007. The Commission is pleased to note that the System Operator is planning to complete a business continuity simulation exercise in 2009.
- 3.75 With regards to Warranties, the System Operator is required to provide certain warranties. Consistent with this requirement, as at 31 August 2007, the System Operator reiterated that it is unaware of anything within its reasonable control which might or would adversely affect its ability to provide the contracted services under the SOSPA and that it had sufficient resources, skills and supervision to carry out the said services.
- 3.76 However, the System Operator has stated in its latest self review that it does not have sufficient financial resources to carry out the said services (quoting the additional technical and advisory services required to support the Commission's requirements) and as such cannot ensure to continue to act as a reasonable and prudent System Operator. At the time of writing this report, negotiations are still underway between the System Operator and the Commission to address the nature of the issues and how to resolve them.
- 3.77 The financial review provided in the System Operator's self review stated that the base agreement fees charged to the Commission totalled \$34 million, for the 18 month period from 1 March 2006 to 31 August 2007, plus additional fees of around 1% of the base contract for services in addition to those provided under the base contract.

### **Other Duties and Roles**

#### ***General***

- 3.78 The System Operator is involved with a raft of other role required activities not specifically mentioned elsewhere in this report. Those activities have a wide range such as, being involved with commissioning of assets jointly with asset owners, processing of dispensation/equivalence arrangements, assessing asset capability statements and test programmes, assisting in the form of submissions and contributions with rule changes, systems development and investigation projects.
- 3.79 It is natural that the workload of those activities can vary from time to time but the Commission encourages the System Operator to continue its efforts in investigating the cause of those activities (some are required under the Rules)

and discuss with the Commission any issues that may not align in both organisations' workplans.

### ***Development Work***

- 3.80 Within the review period, the System Operator has made considerable progress in its Market Systems Project, which is considered large in terms of budget and timeframe. The project was originally targeted for delivery by the middle of 2007. There have been significant delays in progress throughout the lifetime of the project. The System Operator has recently notified the Commission of a further delay and the project is now expected to be substantially complete by the last quarter of 2008. A second phase to follow in this project is the automatic and electronic development of security constraints in planning time and dispatch schedules.
- 3.81 Although the Market Systems Project has diverted a considerable amount of resources over the review period, the System Operator states in its website that it was necessary to develop a market system that is 'fit for purpose' and sustainable in the long term. The Commission will not be able to assess the project's deliverables until the new system is in operation, and after the 'bedding in' period.
- 3.82 Other activities carried out by the System Operator at the request of the Commission have borne the brunt, by way of delays, of such a resource-intensive project (even though backfilling of some positions was undertaken).

### ***Investigation Projects***

- 3.83 Early in the reporting period in April 2006, the System Operator assisted the Commission with the completion of the Tactical Wind Generation Project, which required it to identify more immediate and pressing rule changes that should be considered to accommodate the wind generation expected in the next 2-3 years.
- 3.84 Subsequently, the second project named "Wind Generation Investigation Project" started with a strategic focus on integrating large amounts of wind generation to the New Zealand power system.
- 3.85 The Commission acknowledges the significant amount of technical resources dedicated by the System Operator in support of this project. With regards to the timeliness of technical reports produced for this project, the Commission understands the impact of other work on the progress of this project. It considers though that the quality of the work is high but there is room for improvement in the quality of the written reports, at least to match the quality of equivalent international reports in other overseas' jurisdictions.

### ***Rule Changes***

- 3.86 In addition to its specific obligations under the Regulations and Rules, the System Operator has also made a valuable contribution in a number of rule development initiatives. It has made submissions in concert with the Grid Owner (as Transpower New Zealand) on many others.
- 3.87 However, the Commission has not been able to fully deliver on a number of rule changes (mentioned in the last performance review) because of impediments to implementation due to lack of System Operator resources or availability of the necessary tools for modification.
- 3.88 A prime example is implementing changes required to process dispensations from automatic under-frequency load shedding requirements. Although the consultation process on this rule change has been completed for the last two years, the implementation of the rule change was not able to proceed until the System Operator had the resources to investigate and implement changes to its tools.
- 3.89 Given the central role the System Operator plays in the electricity market, the Commission is always careful to consult with the System Operator on rule changes. In order for this to happen, providing feedback in a timely manner to the Commission's consultation papers should be given a high degree of priority by the System Operator. Otherwise, the effectiveness of the rule change can be in question.

### ***Common Quality Development Plan***

- 3.90 In pursuing the goals of the Common Quality Development Plan (2006), the Commission needs the System Operator's contribution to development priorities identified and approved by the Board in the plan. Development options have been categorised according to the level of strategic importance in terms of providing net benefit to New Zealand.
- 3.91 Some of the Commission's development projects have been delayed due to the non-availability of suitable resources to provide technical advice from the System Operator. The Commission is keen to get more support from the System Operator to help with the delivery of the development plan projects underway.

### ***Stakeholder Relations***

- 3.92 During the review period, the System Operator embarked on various initiatives on several fronts to improve communication and relationship-building with all participants in the industry. This investment in stakeholder relationship management is intended to ensure that there are no surprises.

### **Customer Service**

- 3.93 The System Operator is to be applauded for the customer satisfaction survey that it conducted in April 2006 and the results posted in the System Operator self-review. It is also pleasing to see that the System Operator is following the trend of successful organisations of publishing the outcome of the survey even if they include some unfavourable results. The Commission is looking forward to the actions resulting from this survey.
- 3.94 The Commission notes the mismatch between the importance rating and perceived performance in the customer satisfaction survey for several key areas. However, the results should be interpreted in the context of the survey recipients' perceptions of service factor importance and performance rating. To be fair to the System Operator, indicating the spread of perceptions will give a better understanding of how wide the industry perceives service factors. Also, given the multitude of services that the System Operator provides to the industry, categorisation of the type of service or System Operator function (real time, investigation, development, etc) is important to be able to identify more accurately where to find the key strengths or weaknesses. Otherwise, the summarised results may seem skewed.
- 3.95 A case in point is the survey result of average rating for the System Operator's staff being knowledgeable. The Commission's staff's view is that the System Operator as a whole understands the industry's needs and has the knowledge to do the work. In some instances, perhaps the delivery mechanism is the cause of some of the weaker results and maybe has some room for improvement.
- 3.96 The Commission acknowledges the statement by the System Operator in its self-review that quantity and timeliness of non-rule related services were not up to standard due to resource issues. The Commission hopes that it can agree with the System Operator on the terms of the provision of non-rule related services in the current SOSPA negotiations that will better meet the Commission's needs.

### **Consultation**

- 3.97 The System Operator has been working hard to disseminate its views and inform the industry of its plans by way of organising forums and workshops, conducting one-on-one meetings, making staff available for advisory group meetings and sending newsletters to interested parties.
- 3.98 The Commission acknowledges that the System Operator generally consults with the industry when it is about to introduce changes to its policies and processes. However, there are some areas that can be improved as follows:
- (a) giving more attention to participants' requests in workshops and follow up of their concerns;

- (b) being more upfront in providing information in good faith when requested by the Commission or participants; and
- (c) disseminating feedback within the System Operator's staff from advisory group meetings for the purpose of understanding the industry's views.

### ***Information Distribution***

- 3.99 The System Operator distributes information via various means mainly by posting information on its website and providing data to the Commission for its centralised datasets that are later published.
- 3.100 The System Operator is constantly developing and increasing content on its website. The Commission is keen to see this commitment continue and grow. As usage of the System Operator's website continues to increase and it becomes a primary means of distribution, there appears to be a pressing demand for timely power system information to be more regularly updated.
- 3.101 Commission staff had no issues with the timeliness and content of information provided for the centralised datasets.

## **4. Conclusions**

- 4.1 The Commission is satisfied with the overall performance of Transpower, acting in its role as System Operator, and the high standard of work delivered by its dedicated staff.
- 4.2 The key messages arising from this performance review for the System Operator to take into account over the next reporting period are as follows:
- (a) continue to meet the requirements of its core functions to a high standard;
  - (b) determine ways of freeing up resources so that they are more readily available to provide advisory and development work services;
  - (c) continue to improve the methods of providing information to the Commission and participants; and
  - (d) give the timely consultation with the Commission and participants on the rule change process a higher priority.

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