

System operator performance agreement 2017/18

An overview of the approved metrics and incentives for assessing system operator performance this financial year

28 July 2017

Note: This paper has been prepared for the purpose of discussion. Content should not be interpreted as representing the views or policy of the Electricity Authority.

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Executive summary

The function of the Security and Reliability Council (SRC) is to provide advice to the Electricity Authority (Authority) on the performance of the electricity system and the system operator, and on reliability of supply issues.

This paper resolves a long-standing action from the 13 December 2011 SRC meeting:

“[The] secretariat to work with the system operator to develop a set of integrated and prioritised performance measures.”

This paper:

- provides context for the system operator performance metrics and incentives
- presents the finalised system operator performance agreement 2017/18, which includes the agreed performance metrics and incentives
- discusses the refinement of the performance metrics and incentives over time.

1 Introduction

1.1 This paper resolves a long-standing action

1.1.1 The SRC has been appointed, in accordance with the Electricity Industry Act 2010, to provide independent advice to the Authority on:

- a) the performance of the electricity system and the system operator; and
- b) reliability of supply issues.

1.1.2 This paper resolves a long-standing action from the 13 December 2011 SRC meeting:

“[The] secretariat to work with the system operator to develop a set of integrated and prioritised performance measures.”

1.1.3 The revised target for resolving this long-standing action was the second SRC meeting of 2017.

1.1.4 The SRC received an update on progress with this action at its 28 September 2016 meeting. That paper described the steps that the Authority and Transpower were taking to create a foundation for defining and measuring the performance of the system operator.

2 System operator performance is aligned to support the Authority to give effect to its statutory objective

2.1.1 The Authority and Transpower have worked together to create an improved foundation for defining and measuring the performance of the system operator. The following steps have re-aligned the relationship between the parties and updated the provision of system operator services so that they are delivered in a manner that is consistent with the Authority’s statutory objective:

- a) the parties established a Relationship Charter between the Authority and the system operator¹
- b) the parties concluded system operator service provider agreement (SOSPA) renegotiations, and the new contract took effect on 1 July 2016²
- c) the Authority consulted on and approved amendments to the Code that were complementary to the renegotiated SOSPA, with effect from 19 May 2016.³

2.1.2 Collectively, these documents enable the Authority and the system operator to develop a set of performance measures (including the performance metrics and incentives that are the focus of this paper) that can be broadened over an increasing range of the system operator’s functions, and adjusted to respond to market developments.

¹ Electricity Authority and Transpower (16 June 2014); Relationship Charter – Electricity Authority and Transpower as provider of the System Operator service. <https://www.ea.govt.nz/dmsdocument/18258>. The Relationship Charter established a refreshed joint relationship, underpinned by rules of engagement that provide a consistent foundation and focus for all future engagement between the parties, including development and application of performance measures.

² The SOSPA establishes the terms and conditions for the purchase and supply of system operator services. The new SOSPA was approved by the parties in mid-February 2016 and became fully effective on 1 July 2016. SOSPA <http://www.ea.govt.nz/dmsdocument/20547>

³ Code amendment (System Operator and Alignment with Statutory Objective) 2016 <http://www.ea.govt.nz/dmsdocument/20631>

2.2 The new SOSPA enables comprehensive, integrated and prioritised performance over time

- 2.2.1 The SOSPA sets out the agreed provisions for the supply and purchase of all system operator services, whether provided as functions under the Code or as SOSPA-related services. Performance metrics and incentives are part of a suite of SOSPA measures aimed at incentivising, monitoring and assessing system operator performance over time. The key aspects are briefly described here to provide important context for considering the performance agreement in Appendix A.

Annual planning documents

- 2.2.2 A number of planning documents are required to be developed and agreed with the Authority before the beginning of each financial year. The system operator is then held accountable for the delivery of, and performance against, the agreed plans across that year.
- 2.2.3 The set of performance metrics is one of these planning documents. The key planning documents are summarised in Table 1 (Appendix C) to provide the context for how the performance metrics fit into the overall regime.
- 2.2.4 Reporting requirements in the SOSPA include reporting of performance against each of the plans described in Table 1. The system operator provides monthly, quarterly and annual reporting.

Other performance measures under SOSPA

- 2.2.5 A number of other SOSPA provisions are also relevant to performance of the system operator, in particular:
- a) *Five-year SOSPA reviews and resets*: at the start of every fifth year, the parties will conduct a review of the SOSPA that will assess whether, during the prior four years, anticipated system operator service performance has been achieved, including whether the performance metrics and incentives have effectively and efficiently incentivised system operator performance. The Authority will need to be well-informed and prepared for this by the end of year four (that is, June 2020)
 - b) *Cost-of-service reporting*: SOSPA requires the system operator to commence a feasibility study and subsequent project to implement cost-of-service reporting of the direct and indirect operational costs the system operator incurs when providing agreed services. This study will begin during the second financial year (2017/18) and be completed in time for reporting to begin on 1 July 2018 (unless there are significant feasibility issues). This will also help inform the five-year review and reset.
 - c) *CPI minus X*: SOSPA provides for the system operator's fees to rise over time, but not enough to keep pace with inflation (as measured by the Consumer Price Index (CPI)). This provides an incentive for the system operator to seek to continuously improve the efficiency of its service.
- 2.2.6 There is also provision for performance audits (on exception), requirements for business assurance audits and provision for performance incentives on high-value capital projects.

3 Authority and system operator staff have agreed the performance standard for the 2017/18 financial year

3.1 Authority and system operator staff have developed the first full set of performance metrics

3.1.1 The parties' intention was to establish a set of objective and quantifiable measures for year-on-year assessment. Performance measures need to be:

- meaningful
- measurable
- reflect a broad range of the system operator's functions and services.

3.1.2 Previously, the performance incentive regime measured a narrow range of performance and excluded operational areas. It was generally based around the performance of project management and, in the last two years included the release of market benefits through system operator initiated improvements.

3.1.3 Engagement on performance measure development began midway through 2016/17. The Authority and system operator have engaged constructively throughout the process.

3.1.4 The Authority, as part of its negotiation strategy in 2013, decided that it would adopt the New Zealand government's performance improvement framework (PIF) as an objective framework to form a basis from which it could consider development of system operator performance measures. The performance framework covers six critical areas of organisational performance. These have since been refined to align them to the system operator's own strategic service goals and business planning.

3.1.5 The system operator performance metrics agreed for the 2017/18 year encompass all aspects of system operator performance. They are set out in detail in the performance agreement attached to this paper (Appendix A).

3.1.6 The performance metrics are structured around the following system operator critical success factors:

- a) We [the system operator] are smart about money
- b) Our customers are informed and satisfied
- c) We maintain Code compliance and meet our SOSPA obligations
- d) We deliver projects successfully
- e) We are committed to optimal real time operation
- f) Our people are engaged and competent
- g) Our tools and technologies are fit for purpose.

3.1.7 Within each of these critical success factors the performance agreement describes one or more performance metrics for 2017/18. Background information, a description, relevant historic performance and acceptable performance targets are set out for each performance metric.

3.1.8 It is important to note there are four placeholders for the 2017/18 financial year. This is because system operator and Authority staff have agreed that in principle that these areas need a

performance metric but acknowledged that further work was required before these can be finalised. It is intended that these will be included for the financial year after they have been finalised. One measure (optimal dispatch) is likely to take more than one year to finalise and baseline.

3.1.9 Appendix B shows how the performance metrics link to the system operator's strategy map and business planning.

3.1.10 The system operator will monitor its performance against the agreed performance metrics on a monthly basis and report this to the Authority in quarterly and annual reports.

3.2 Authority and system operator staff have developed performance incentives linked to the metrics

3.2.1 The performance agreement (Appendix A) also outlines an agreed performance incentive regime. This regime will be used to determine the incentive payment made to, or by, the system operator, based on the agreed assessment of the system operator's level of performance against the metrics.

3.2.2 The incentive regime is bi-directional, based on:

- a) an agreed 'acceptable level of performance' (where no incentive payment is made in either direction)
- b) a cap and collar, equidistant on either side of the acceptable level of performance

3.2.3 Where the system operator's actual level of performance exceeds the acceptable level of performance, the performance incentive payment will be positive, indicating a payment from the Authority to the system operator. However, where the system operator's actual level of performance is below the acceptable level of performance, the performance payment will be negative, indicating a payment from the system operator to the Authority.

3.2.4 The performance agreement sets out that the 'acceptable level of performance' for the 2017/18 financial year is a performance assessment where 70% of agreed performance metrics meet the related acceptable performance target in the metrics. The cap and collar are set at 80% and 60%.

3.2.5 The maximum incentive payment under this agreement is a total of \$100,000.

3.2.6 This means that:

- a) if the system operator achieved exactly 70%, there would be no incentive payment made
- b) if the system operator achieved 60% or less, it would reimburse the Authority \$100,000
- c) if the system operator achieved 80% or more, it would receive an additional \$100,000 payment from the Authority
- d) the payment/reimbursement for achievement between 60% and 80% would be calculated on a pro rata basis.

3.2.7 While the maximum payment either party can make is \$100,000, from the system operator's perspective the financial difference between poor and excellent performance is \$200,000. This incentive is modest in comparison to the contract value of approximately \$40M.

3.3 Challenges to developing suitable performance metrics and incentives

- 3.3.1 Very few formal performance measures exist that can be reasonably and objectively applied to assess system operator performance. Apart from the principal performance obligations, few Code obligations currently include performance measures. Good international system operator practice is always inexact and evolving, and in all cases New Zealand circumstances need to be considered before developing and applying comparative performance measures.
- 3.3.2 The style of metrics/incentives instrument agreed for 2017/18 is not without risk. The requirement for good faith negotiation and mutual agreement of the performance metrics and incentives drives the parties toward objective and unarguable metrics to avoid subjective enforcement and penalties. By seeking objective measures, we reduce our ability to have subjective judgement as part of the assessment process.
- 3.3.3 However, there remains a fundamental information asymmetry between the parties regarding the range of potential metrics, baseline performance and capability. This will reduce somewhat over time, especially as the available data on baseline performance grows.
- 3.3.4 While the parties have worked to make the metrics as unambiguous and objective as possible, measuring actual performance still requires good faith to avoid incentivising perverse behaviour. Despite the objectivity sought, it is possible for some metrics to be achieved in name but not met in terms of the spirit or intention. We believe the system operator's attitude has been excellent which means the risk of the system operator behaving in this way is very low, and we are confident this will remain the case. We also note that other documents and measures, such as the Relationship Charter, annual published performance reporting and the five-yearly review and reset provision, also contribute to appropriately incentivised behaviour.

4 The performance metrics and incentives will be refined over time

- 4.1.1 The metrics have been designed to be dynamic enough to allow for adjustments to reflect changing market priorities and emerging good practice. The parties expect that to reflect good practice over time:
- a) the suite of metrics will be broadened with the development of the placeholder metrics and other metrics that are yet to be conceived of
 - b) the existing metrics will be recalibrated to ensure each performance target is suitable.
- 4.1.2 This will take persistence and high-quality supporting information over several annual cycles. The five-year SOSPA review and reset, and the cost-of-service reporting will play an important role in this process.
- 4.1.3 The Authority also expects that the associated performance incentive regime will be refined over time. As the parties gain experience with the measurement and assessment process, the Authority anticipates the parties will consider:
- a) increasing the size of the incentive payments
 - b) providing incentives for less than 100% of the metrics
 - c) providing asymmetric incentives for specific metrics (where there is an underlying reason for the relevant metric, such as acceptable performance already being very close to a hard limit (0 instances or 100%))

- d) weighting the incentive provided for each metric based on the relative importance of each metric.

4.1.4 The provision of independent advice on system operator performance is a key role for the SRC under the Act. The Authority welcomes SRC comment on the 2017/18 performance metrics and incentives in Appendix A as input to the ongoing refinement of these for coming financial years.

4.1.5 The system operator will monitor its performance against the agreed performance metrics on a monthly basis and report this to the Authority in quarterly and annual reports. The SRC will continue to receive, and have an opportunity to comment on:

- a) the annual system operator self-review of performance
- b) the associated Authority review of system operator performance.

4.1.6 The secretariat seeks SRC guidance on if and/or how the SRC would like the opportunity to comment on the system operator's quarterly reports.⁴ Options include:

- a) to continue with the status quo, in which the SRC does not receive quarterly reports but the secretariat would arrange for any relevant issues from the quarterly reporting to be presented to the SRC
- b) to receive the most recent quarterly report at each SRC meeting, though the timing of quarterly reports is unlikely to align well with the SRC's three meetings per year
- c) to receive some subset of the most recent quarterly report at each SRC meeting, such as the dashboard of performance against the agreed metrics
- d) to receive all quarterly reports by email as optional reading.

4.1.7 The secretariat recommends the status quo (4.1.6a)).

5 Questions for the SRC to consider

5.1.1 The SRC is asked to consider and provide advice on the following questions:

- | | |
|------------|--|
| Q1. | What comments does the SRC have on the 2017/18 performance metrics and incentives in Appendix A, as input to the ongoing refinement of these for coming financial years? |
| Q2. | Does the SRC wish to instruct the secretariat to make changes with respect to providing the system operator's quarterly reporting to the SRC? |
| Q3. | What further information, if any, does the SRC wish to have provided to it by the secretariat? |
| Q4. | What advice, if any, does the SRC wish to provide to the Authority? |

⁴ The system operator's monthly and quarterly reports for 2017 are available from <http://www.ea.govt.nz/operations/market-operation-service-providers/system-operator/monthly-reports/2017/>

Appendix A System operator performance metrics and incentives agreement for 2017/18

PERFORMANCE METRICS AND INCENTIVES AGREEMENT 2017/18

FINAL

Transpower New Zealand Limited
June 2017

Keeping the energy flowing



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1 Obligation and purpose

The purpose of this performance metrics and incentives agreement is to outline agreed metrics of Transpower's performance in the provision of the system operator service, and the incentives regime associated with these metrics.

The system operator service provider agreement (SOSPA) 2016 requires Transpower, in its role as the system operator (the system operator), and the Electricity Authority (Authority) to annually agree a set of metrics for the next financial year, against which the quality of the system operator's provision of the service will be measured. Performance against these metrics will be monitored on a monthly basis and reported to the Authority in quarterly and annual reports.

This performance metrics and incentives agreement also outlines a performance incentives regime, which will be used to determine the incentives payment made to the system operator, by the Authority, based on the level of performance against the agreed metrics. Should the system operator fail to achieve the performance standard outlined in this agreement, they will be required to reimburse the Authority based on the performance incentives regime.

2 Agreed performance metrics

The system operator and Authority have agreed on the performance metrics for the 17/18 financial year as outlined in Appendix A.1 – System Operator Service Performance Metrics.

The system operator and Authority have agreed that provided seventy per cent (70%) of the agreed performance metrics meet the corresponding acceptable performance target, a maximum incentive payment of \$100,000 will be calculated as outlined in Sections 3 and 4 this agreement.

3 Performance incentive regime

Associated with the performance standard above is a bidirectional performance incentive regime, which is shown in Table 1. This regime defines an acceptable level of performance (where no incentive payment is made in either direction) and caps and collars. Caps and collars will be equidistant on either side of the acceptable level of performance.

Where the system operator's actual level of performance exceeds the acceptable level of performance, the performance payment will be positive, indicating a payment from the Authority to the system operator. However, where the system operator's actual level of performance is below the acceptable level of performance, the performance payment will be negative, indicating a payment from the system operator to the Authority.

i	Measure (M_i)	Acceptable performance ($AccP_i$)	Cap $_i$	Collar $_i$	Max payment (I_{max_i})
1	Agreed performance metrics meet the related acceptable performance target.	70%	80%	60%	\$100,000

Table 1: Performance incentive regime design

4 Performance incentive calculations

The performance incentive payment for each metric is calculated linearly based on the level of achievement against that metric, which is determined by comparing actual performance with the acceptable level of performance using the following formula (1):

$$PPm_i = \begin{cases} -Imax_i, & \text{if } ActP_i \leq Collar_i \\ ((ActP_i - AccP_i)/(AccP_i - Collar_i)) * Imax_i, & \text{if } Collar_i < ActP_i \leq AccP_i \\ 0 & \text{if } ActP_i = AccP_i \\ ((ActP_i - AccP_i)/(Cap_i - AccP_i)) * Imax_i, & \text{if } AccP_i < ActP_i < Cap_i \\ Imax_i, & \text{if } Cap_i \leq ActP_i \end{cases} \quad (1)$$

Where:

$i = 1 \text{ to } 2$

PPm_i = performance incentive payment for metric i

$ActP_i$ = actual level of performance for metric i

$AccP_i$ = acceptable level of performance for metric i

$Collar_i$ = the collar for metric i

Cap_i = the cap for metric i

$Imax_i$ = Maximum incentive payment for metric i

While performance incentive payments are calculated on an individual basis for each metric, only one payment, the total performance incentive payment, will be made in each financial year. The total performance incentive payment is the sum of individual performance incentive payments for each metric based on the following formula (2):

$$PP_{tot} = \sum_{i=1}^2 PPm_i \quad (2)$$

Where:

PP_{tot} = Total performance incentive payment

Where PP_{tot} is positive, a payment will be made to the system operator by the Authority for this amount. Where PP_{tot} is negative, a payment will be made to the Authority by the system operator. This payment will form part of the wash up and incentives fee in the June invoice. Therefore, all performance incentive payment calculations must be completed and agreed by the fifth business day of July.

A.1 System Operator Service Performance Metrics

We are smart about money

Perception of added value by industry participants (placeholder)

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Review of the annual participant survey includes the addition of a question reflecting industry participant perception of added value by system operator.		N/A			●		●

Our customers are informed and satisfied

Improved annual participant survey result

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard																				
		2017/18	2018/19	2019/20	SO	TP	EA																		
Transpower in its role as system operator is obligated under SOSPA 15.6 to carry out at least one participant survey during each financial year. The survey must ask for feedback on the system operator’s performance of services including how the system operator educates and engages with participants and possible improvements in the way the system operator performs the services. A report on survey responses must be provided to the Authority.	Overall service rating of “Good” or better <table><tr><td>2013/14</td><td>2014/15</td><td colspan="2">2015/16</td><td colspan="2">2016/17</td></tr><tr><td>Actual</td><td>Actual</td><td>Target</td><td>Actual</td><td>Target*</td><td>Actual</td></tr><tr><td>94%**</td><td>67%</td><td></td><td>75%</td><td>77.5%</td><td>81%</td></tr></table>	2013/14	2014/15	2015/16		2016/17		Actual	Actual	Target	Actual	Target*	Actual	94%**	67%		75%	77.5%	81%	79%	81%	83%	●		●
2013/14	2014/15	2015/16		2016/17																					
Actual	Actual	Target	Actual	Target*	Actual																				
94%**	67%		75%	77.5%	81%																				
	*Performance Metrics and Incentives Agreement 2016/17 acceptable performance (threshold) target of 77.5%.																								
Improved overall service rating of ‘Good’ or better.	**Methodology unknown – an external party conducted the survey.																								

Improved annual participant survey response rate

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard																										
		2017/18	2018/19	2019/20	SO	TP	EA																								
Refer previous related metric for background.	Response rate to online survey <table><tr><td colspan="2">2013/14</td><td colspan="2">2014/15</td><td colspan="2">2015/16</td><td colspan="2">2016/17</td></tr><tr><td>No.</td><td>Rate</td><td>No.</td><td>Rate</td><td>No.</td><td>Rate</td><td>No.</td><td>Rate</td></tr><tr><td>46/-</td><td>-</td><td>18/-</td><td>-</td><td>34/328</td><td>10%</td><td>61/328</td><td>19%</td></tr></table>	2013/14		2014/15		2015/16		2016/17		No.	Rate	No.	Rate	No.	Rate	No.	Rate	46/-	-	18/-	-	34/328	10%	61/328	19%	20%	25%	25%	●		●
2013/14		2014/15		2015/16		2016/17																									
No.	Rate	No.	Rate	No.	Rate	No.	Rate																								
46/-	-	18/-	-	34/328	10%	61/328	19%																								
Response rates vary widely depending on several factors such as the relationship with the target audience, survey length and complexity, incentives, and topic of the survey. For online surveys in which there is no prior relationship with recipients, a response rate of between 20-30% is considered highly successful. A response rate of 10-15% is a more conservative and a safer guess if the population hasn’t been surveyed before.	2013/14 and 2014/15 response rates are unable to be calculated – pool is unknown.																														
Source: Survey Monkey, retrieved from https://www.surveymonkey.com/mp/sample-size/ on 19/04/17	Response rate from first tier stakeholders (those we have an existing relationship with) – first year for tracking this metric.	80%			●		●																								

On-time special event preliminary reports

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
After a special event ¹ the system operator has committed to provide an initial report to industry.	First year for tracking this metric.	90% ≤10 business days	90% ≤10 business days	90% ≤10 business days	●		●
90% of preliminary reports within 10 business days.	This metric may change from ‘On-time...’ to ‘Improved timeliness of...’ if improvement is required.						
1. An event with potential significant impact to industry, e.g. AUFLS 2 March 2017.							

Industry leadership and insights

Description / Background	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Industry leadership and insights – At least 1 report on insights/impact of edge technologies and at least 5 reports providing market insights ² made publicly available.	First year for tracking this metric.	≥ 1	≥ 1	≥ 1	●	●	●
		≥ 5	≥ 5	≥ 5	●	KPI 5 ●	●
Cross-references to System Operations Division KPI’s (KPI 5) and Other Performance Metrics for 2017/18 monitored/reported quarterly by the SO Finance Manager.							
2. Market insights should not cross into policy advice/opining on the incentives etc. There will be judgement required so contact will be made with relevant parties if a report might encroach on the policy development role of the Authority or the advisory groups.							

We maintain Code compliance and meet our SOSPA obligations

Market impact of breaches remain below threshold

Background / Description	Historic Performance / Methodology / Scope					Acceptable Performance Target			Dashboard																																																														
						2017/18	2018/19	2019/20	SO	TP	EA																																																												
Initially the focus for this was setting a limited (target) number of breaches per year and a reduced number of breaches in real time. However, it was determined this was a more useful indicator of Code compliance.	<table><tr><td></td><td>2013/14</td><td>2014/15</td><td>2015/16</td><td>2016/17*</td><td>3 YR AVE</td></tr><tr><td>Total # breaches</td><td>18</td><td>30</td><td>14</td><td>16</td><td>20</td></tr><tr><td># breaches w \$ impact</td><td>7</td><td>6</td><td>8</td><td>3</td><td>6</td></tr><tr><td>% Total</td><td>39%</td><td>20%</td><td>57%</td><td>19%</td><td>28%</td></tr><tr><td>Total \$</td><td>-</td><td>\$62,655</td><td>\$190,048</td><td>\$40,650</td><td>\$97,784</td></tr><tr><td>Ave \$/breach</td><td>-</td><td>\$10,443</td><td>\$22,457</td><td>\$13,550</td><td>\$15,483</td></tr><tr><td>Max \$ impact</td><td>-</td><td>\$60,000</td><td>\$66,416</td><td>\$39,300</td><td>\$55,239</td></tr><tr><td>Min. \$ impact</td><td>-</td><td>\$3</td><td>\$3</td><td>\$50</td><td>\$19</td></tr><tr><td>Median \$ impact</td><td>-</td><td>\$301</td><td>\$6,170</td><td>\$1,300</td><td>\$2,590</td></tr><tr><td># of breaches >\$50K</td><td>1</td><td>1</td><td>3</td><td>0</td><td>1.25</td></tr></table>						2013/14	2014/15	2015/16	2016/17*	3 YR AVE	Total # breaches	18	30	14	16	20	# breaches w \$ impact	7	6	8	3	6	% Total	39%	20%	57%	19%	28%	Total \$	-	\$62,655	\$190,048	\$40,650	\$97,784	Ave \$/breach	-	\$10,443	\$22,457	\$13,550	\$15,483	Max \$ impact	-	\$60,000	\$66,416	\$39,300	\$55,239	Min. \$ impact	-	\$3	\$3	\$50	\$19	Median \$ impact	-	\$301	\$6,170	\$1,300	\$2,590	# of breaches >\$50K	1	1	3	0	1.25	≤1 @ ≥ \$50k	≤3 @ ≥\$45k	≤3 @ ≥\$40k	●		●
	2013/14	2014/15	2015/16	2016/17*	3 YR AVE																																																																		
Total # breaches	18	30	14	16	20																																																																		
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Min. \$ impact	-	\$3	\$3	\$50	\$19																																																																		
Median \$ impact	-	\$301	\$6,170	\$1,300	\$2,590																																																																		
# of breaches >\$50K	1	1	3	0	1.25																																																																		
Market impact of breaches remain below threshold – no more than one breach annually which exceeds \$50k.																																																																							
Market impact used by this metric is the change in system cost (interval cost) between the pricing schedule during the event and a modified pricing schedule with adjusted inputs to reflect what would have happened had the event not occurred. The market impact does not account for changes in participant behaviour as a result of the event.	Source: The Hub, http://tp-hub.transpower.co.nz/activity/so64/EventAdministration/Forms/Default.aspx																																																																						
	*Based on data as at 20/04/17																																																																						
	Consider reducing trend over time (e.g. \$ value of market impact/breach per year).																																																																						

Breaches creating a security risk remain below threshold/within acceptable range (placeholder)

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Refer previous metric for background.		N/A			●		●
The number of breaches creating a security risk remain below threshold/within acceptable range.							

On-time Code and SOSPA deliverables

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
During each financial year, there are 53 Code and/or SOSPA outputs the system operator is obligated to deliver to deadline.	First year for tracking this metric.	100%	100%	100%	●		●
100% Code and SOSPA outputs delivered on time.							

We deliver projects successfully

Improved project delivery

Description / Background	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
This metric comprises two parts:							
a) ≥ 60% achieved for approved ³ time/budget for Service Maintenance projects	First year for tracking this metric.	≥ 60%			●		●
b) ≥ 60% achieved for approved ³ time/budget for Market Design, and Service Enhancement projects		≥ 60%			●		●
3. As outlined in the original approved business case.							

We are committed to optimal real time operation

Sustained infeasibility resolution

Description / Background	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
The number of infeasibilities resolved to meet Code obligations (i.e. within 2 business days) is sustained. 100% within 2 business days. 80% within 1 business day.	First year for tracking this metric.	100% ≤ 2 business days	100% ≤ 2 business days	100% ≤ 2 business days	●		●
		80% ≤ 1 business day	80% ≤ 1 business day	80% ≤ 1 business day	●		●

High spring washer resolution

Description / Background	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
High spring washer price relaxation factor is applied to meet Code obligations. 100% within Code obligations. 80% within 1 business day (except those covered by cl. 13.148).	First year for tracking this metric.						
		100%	100%	100%	●		●
		80%	80%	80%	●		●

Optimal dispatch (placeholder)

Description / Background	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
The key underlying concept of optimal dispatch is the comparison of actual generation outcomes with a ‘perfect’ (hypothetical) dispatch scenario where all system conditions were known with ‘perfect’ foresight, and then opportunities identified to close any gaps. Development of this metric is underway for implementation by 2019/20.	First year developing this metric.	N/A			●	●	●
	Comparison of actual generation, dispatch generation, and optimised solutions based on re-solving the 5-minute RTP market schedules with ‘perfect’ hindsight of key inputs.						

Our people are engaged and competent

Improved staff engagement

Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Engagement scores in System Operations Division - Engagement score improves by 3% to 68%. Cross-references to System Operations Division KPI’s (KPI 1) and Other Performance Metrics for 2017/18 monitored/reported quarterly by the SO Finance Manager.	N/A – Refer SO Finance Manager.	68%	Target set annually by TP	Target set annually by TP	●	● KPI 1	●

Improved personal performance (placeholder)

Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Each quarter a personal Performance Agreement is agreed between an employee and their direct line manager. The employee is required to assess where they sit on the performance continuum: Needs support → Performing well → Great performance.	First year developing this metric.	N/A			●		●
Annual percentage of personal Performance Agreements: Threshold – “Performing well” Excellence – “Great performance”	Status update quarterly (as agreements are updated).						

Our tools and technologies are fit for purpose

Improved capability functional fit assessment score

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
This metric is one of 14 outlined in the SO IST Operating Model (KPI 1.13: Fit for Purpose Capability). It is owned by the Market Capability Manager and monitored by the Market Capability Team.	First year for tracking this metric.	73.73% TBC (pending SLT Review)	74.74% TBC	75.75% TBC	● KPI 1.13		●
It is a summary measure to check that Systems Operation and system operator business capabilities and processes are fit for purpose. It is an aggregated assessment of the following high level capabilities, each outlined in the SO ICT Strategic (10 Year) Roadmap: - Presentation Services - Workflow and Integration - Planning and Readiness - Market Operations - Power System Operations - System Operator Support Services - Information and Data Management - Security IT Management - Technology and Application Platforms - IT Infrastructure Services							
The baseline and target metric measure is the average of “Each Capability Functional Fit assessment score weighted by the Business Importance”. The Capability Assessment method will be as defined and used for SOSPA Capability Assessment.							
Baseline (2H 2016) – 71% Target (1H 2021) – 76%							



Improved technical quality assessment score

Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
This metric is one of 14 outlined in the SO IST Operating Model (KPI 1.14: Fit for Purpose Quality). It is owned and monitored by the Development Manager Critical Services. It is a summary measure to check that System Operations and system operator business capabilities have fit for purpose technical quality. It assesses the same high level capabilities listed in the previous metric profile. The baseline and target metric measure is the average of “Each Capability Quality assessment score weighted by the Business Importance”. The Capability Assessment method will be as defined and used for SOSPA Capability Assessment. Baseline (2H 2016) – 47% Target (1H 2021) – 70%	First year for tracking this metric.	49.55% TBC	50.60% TBC	51.65% TBC	● KPI 1.14		●

Sustained SCADA availability

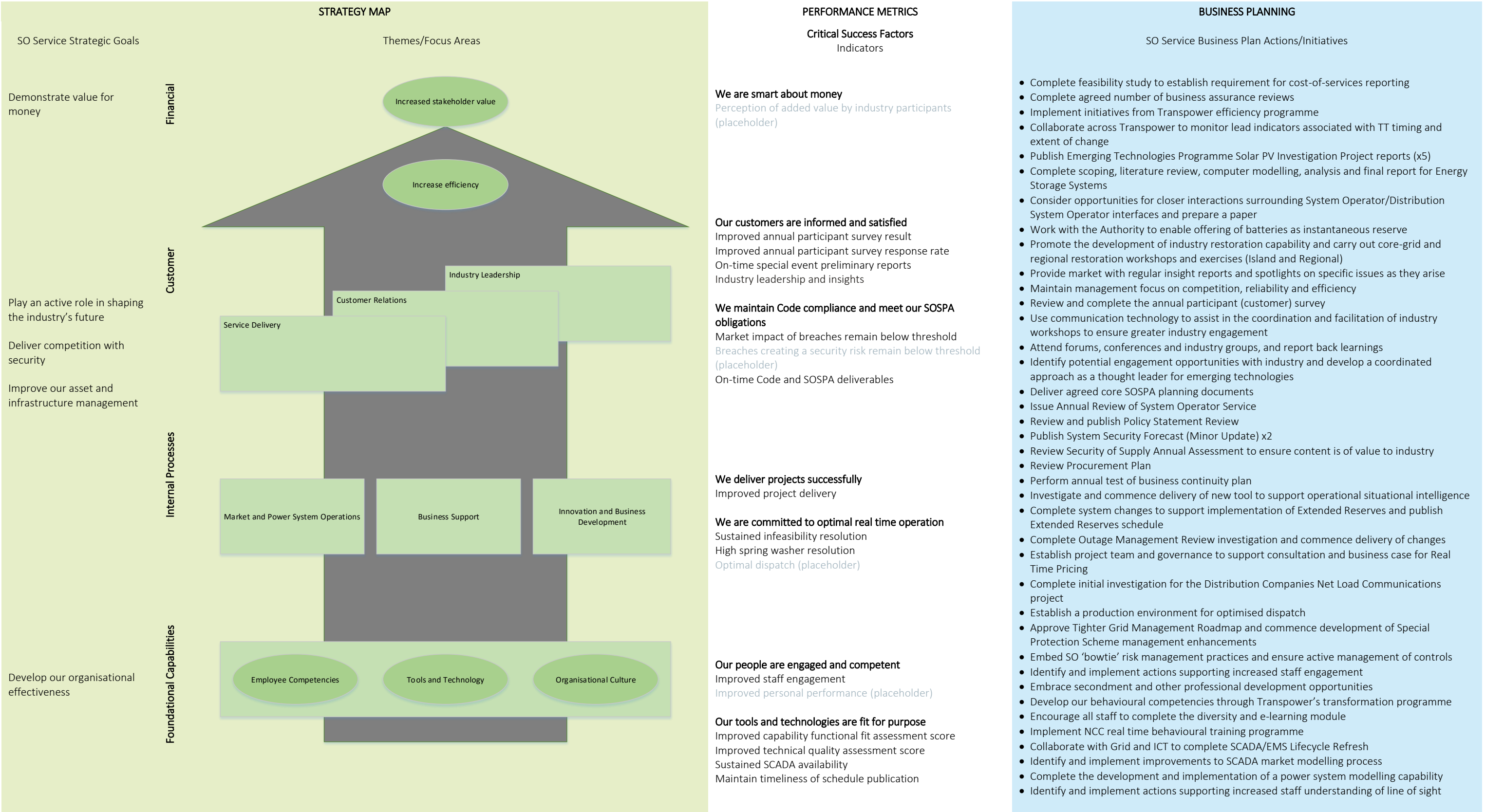
Background / Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Availability is the percentage value of minutes the SCADA⁴ system was available for customer use over the total number of minutes in the month. The SLA target is 99.9% average availability over a rolling 12-month period. 4. Supervisory Control and Data Acquisition	SCADA availability over a rolling 12-month period as reported in the SCADA Fortnightly System & Support Performance Report.	99.90%	99.90%	99.90%	●		●

Maintained timeliness of schedule publication

Description	Historic Performance / Methodology / Scope	Acceptable Performance Target			Dashboard		
		2017/18	2018/19	2019/20	SO	TP	EA
Timeliness of schedule publication is maintained – 99% of solutions are published on time. Publication targets met 99% of the time for the following schedules: NRSL Non Response Schedule Long PRSL Price Response Schedule Long RTP Real Time Pricing	Solutions not published on time as reported in the Market Applications System and Support Performance Monthly Report.	99%	99%	99%	●		●

Appendix B System operator performance metrics, strategy map and business planning

We’re for New Zealand – through safe, smart solutions that connect Kiwis to their power system for today and tomorrow
To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers
We operate a competitive electricity market and deliver a secure power system for the long-term benefit of consumers



Appendix C Key annual planning documents under SOSPA

Table 1: Key planning documents agreed between the Authority and system operator

Performance metrics and performance incentives	Annually, before the start of each financial year, the Authority and system operator will agree a set of objective measures that will apply for the new financial year. Further, the parties will agree to any financial performance incentives considered appropriate to encourage agreed levels of quality. The quality of the system operator's service performance will then be assessed against the nominated measures and any agreed incentive payments made.
Strategic planning	The system operator is required to produce a system operator strategic plan and a draft ICT strategic roadmap every year. Before finalising the strategic plan and roadmap, the system operator consults with the Authority and considers its feedback.
Capital planning	The system operator annually develops: (a) a capital expenditure (capex) plan which covers the two immediate financial years after the current financial year; it details capex projects together with forecast capital cost and forecast commencement/commission dates for each (b) a capex roadmap which is a higher-level descriptive document that forecasts the major capex programmes and projects for the two financial years following on from those covered by the capex plan. Before finalising the capex plan and roadmap, the system operator considers the feedback that arose from the draft versions that were used as part of the Authority's annual levy consultations.
Statutory objective work plan	The system operator annually prepares a work plan that outlines its planned programme of work for statutory objective alignment for the coming financial year. This will typically include its proposed policy and procedures review for the year. Prior to finalising the statutory objective work plan, the Authority and system operator jointly consider whether it meets the Authority's priorities and expectations.
Engagement and education plan	The parties jointly agree to an annual high-level plan to coordinate education and engagement with participants and customers. The aim is to ensure joint market engagement and educational activities. This plan is finalised before the new financial year begins.
Business assurance audits	The system operator prepares a plan annually for business assurance audits of aspects of the system operator service. The system operator finalises the plan following engagement with the Authority, and provides a final plan to the Authority by the end of each financial year. The Authority receives the final report for each business assurance audit completed.
System operator annual service business plan	Each year the system operator will produce a business plan that outlines how the strategic plan, ICT roadmap and the other above plans will be delivered in the new financial year. Prior to finalising the business plan, the system operator gives the Authority an opportunity to provide feedback on the plan.