

The Lines Company Limited

DEFAULT PRICE QUALITY PATH COMPLIANCE STATEMENT

FOR THE ASSESSMENT PERIOD ENDING 31 MARCH 2019

*Pursuant to the Electricity Distribution Services Default Price-Quality Path
Determination 2015*

13 June 2019

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1. Introduction

The Lines Company Limited (TLC) restructured prices on 1 October 2018 and moved to our new pricing (kWh time-of-use and anytime) for 'non-major' customers. At that time, TLC also implemented the 'new pricing transition discount'. The purpose of the new pricing transition discount is to cap line charge increases, for individual customer connections, at 20% (when compared to last year) for the first year of the new pricing structure.

TLC complies with the DPP price path for the 2019 Assessment Period as this document demonstrates. Our compliance headroom is \$3.3m. The new pricing transition discount for the six months to March 2019, with a value of \$2.0m, is excluding from notional revenue.

There are several price restructure compliance considerations for TLC in the 2019 year:

- Deriving kW quantities for demand prices to September 2018;
- Deriving kWh quantities for new prices from October 2018;
- Metering charges associated with new prices from October 2018;
- Adjustments to lagged kW quantities due to changes in business rules to September 2018;
- New pricing transition discounts from October 2018.

Also, TLC continues to estimate the prompt payment discount offered to customers.

2. Compliance with the Price Path (Clause 11.2(a)(i))

The Lines Company Limited (TLC) does comply with the price path at the assessment date, 31 March 2019, as specified in the *Electricity Distribution Services Default Price-Quality Path Determination 2015*.

Clause 8.3 The notional revenue (NR) of a Non-exempt EDB in the Assessment Period must not exceed the allowable notional revenue (ANR) for the Assessment Period.

Compliance is demonstrated in the following table, which demonstrates that notional revenue during the Assessment Period does not exceed allowable notional revenue.

Electricity Distribution Services Default Price-Quality Path Determination 2015

Assessment Against the Price Path for the Assessment Period ending 31 March 2019

Clause 8.3 The notional revenue of a Non-exempt EDB in an Assessment Period must not exceed the allowable notional revenue for the Assessment Period, such that:

Test:	$NR_{2018/19} \leq ANR_{2018/19}$	
NR _{2018/19}	\$	35,919,684
ANR _{2018/19}	\$	39,250,628
Result		0.915 < 1
Result		<i>Price Path has not been breached</i>

Supporting evidence is presented in Appendices A, B, C and D.

Compliance approach

As discussed, there are several price restructure compliance considerations for TLC in the 2019 year:

- Deriving kW quantities for demand prices to September 2018;
- Deriving kWh quantities for new prices from October 2018;
- Metering charges associated with new prices from October 2018;
- Adjustments to lagged kW quantities due to changes in business rules to September 2018;
- New pricing transition discounts from October 2018.

Also, TLC continues to estimate the prompt payment discount offered to customers.

1. Deriving kW quantities for demand prices to September 2018

The kW quantities for each connection are constant across a pricing year. kW charges are expressed as a \$/kW/month line charge. Accordingly, revenue from kW charges is constant each month of the pricing year for each connection. This occurs because the kW used for billing purposes reflect demand in the prior year, i.e. the prior year peaks determine the kW measure for each customer's connection in the pricing year. For notional revenue (NR) in the 2019 Assessment Period, the quantity associated with each price is the kW quantity billed during the 2017 Assessment Period, i.e. 1 April 2016 to 31 March 2017. This quantity measure is derived from peak demand largely during the winter of 2015. Thus the kW charge in any pricing year is independent of demand behaviour in that year. Accordingly, kW charges are not seasonal. As the kW charges only applied for the 1 April 2018 – 30 September 2018 period, the kW charge is applied for six months rather than 12, for the purpose of the 2019 NR. This applies for those ICPs connected to the network between 1 April 2016 and 30 September 2016, using the kW quantities billed at that time, i.e. t-2. This is illustrated in table 1 below:

	Winter 2015	April 2016 – March 2017 (t-2)	April 2017 – March 2018 (t-1)	April 2018 – Sept 2018 (t)
Quantity (kW)	Average of 6 x 2 hour peaks during load control periods = kW per ICP	kW per ICP (from 2015 winter demand)	kW per ICP (from 2015 winter demand)	kW per ICP (from 2015 winter demand)
Quantity (ICP)		Connected ICPs by consumer group for demand (kW) pricing	Connected ICPs from April 2016 to March 2017	Connected ICPs from April 2016 to September 2016
Price (\$/kW)		Fixed \$/kW/month (from 1 April 2016)	Fixed \$/kW/month (from 1 April 2017)	Fixed \$/kW/month (from 1 April 2018)
Revenue		kW x \$/kW/month= fixed monthly charge x 12	kW x \$/kW/month= fixed monthly charge x 12	kW x \$/kW/month= fixed monthly charge x 6
		Actual revenue	Used for ANR	Used for NR

Table 1 Deriving kW quantities and prices for 2019 Assessment Period, before the new pricing restructure

2. Deriving kWh quantities for new prices from October 2018

The restructured prices were introduced from 1 October 2018. A key component of the restructure was a switch from kW based pricing to kWh based pricing. kWh based pricing is charged on the basis of the actual kWhs consumed in the pricing period. The new kWh based prices include TOU prices (reflecting energy consumption during peak, shoulder and off-peak pricing periods) and

Anytime prices (which apply to all consumption, irrespective of the time of day). Anytime prices apply where TOU metering is not available.

For the purpose of calculating NR, kWh quantities must reflect the 1 October 2016 to 31 March 2017 period (t-2). TLC's historical datasets include half-hourly kWh data or register read data for individual ICPs for this period for most connections. This data has been used as a basis for deriving the quantities which correspond to the new kWh based prices. Also, TLC has considered the demand response to the new pricing structure and has adjusted the historical data to reflect the observed response since the new prices came into effect on 1 October 2018.

In summary, TLC has observed an increase in total consumption, after taking into account weather-related impacts, but no discernible change in the demand profile (i.e. the time of use) for the first six months of the new pricing. Our analysis indicates that the kWh quantities have increased by a factor of approximately 4.5%. This adjustment has been applied to t-2 quantities, and it has increased NR by \$378K in the 2019 Assessment Period.

3. Metering charges associated with new prices from October 2018

As part of the price restructure, metering charges are included in NR from 1 October 2018. TLC now requires monthly meter data for all customers on kWh based pricing. TLC is charging customers directly for metering services, and the charges reflect the type of meter in use for each ICP. We note that a portion of the total metering charge is attributed to non-regulated services (40%), as meters are also used for retail market services. In order to derive t-2 metering quantities which practicably correspond to the 1 October 2018 prices, meters have been matched to the number of (t-2) connections on each pricing plan.

4. Adjustments to lagged kW quantities due to changes in business rules to September 2018

As in previous Assessment Periods, price restructures for kW charges have occurred, as the business rules for establishing kW quantities have continued to evolve. These price restructures impact both NR and ANR, although for NR they only apply for the first six months. These restructures are detailed in Appendix D.

5. New pricing transition discounts from October 2018

As part of TLC's TOU price restructure, we implemented a new pricing transition discount to cap line charge increases for a period of 12 months from 1 October 2018. The cap is set at +20% of the lines charges which applied to each customer's connection, immediately prior to the new pricing coming into effect.

This new pricing transition discount forms part of TLC's pricing arrangements with customers, it is assessed quarterly and included as a credit on line charge invoices.

Notification to customers

To allow customers to be able to take the discount into account and make an informed decision about their energy use, notification to customers was required prior to the commencement of the new prices on 1 October 2018.

However, our notifications occurred after 1 October 2018, and therefore the transition pricing discount is not able to be included in notional revenue for this assessment period.

After 1 October 2018 and before 1 April 2019, customer notification of the discount as part of posted prices has occurred. For this reason, TLC intends including the new pricing transition discount in our price path calculations for the 2020 assessment period.

6. Basis of estimates

The Lines Company Limited offers a 10% prompt payment discount (PPD) on most of our charges. The PPD available is included in our schedule of prices, where we publish two sets of prices (before and after the deduction of the PPD, where applicable). The take-up of the PPD is determined by consumers, as the receipt of the discount is based on the date of payment.

Our DPP Price Path Compliance is demonstrated above. Notional revenue is a product of posted prices multiplied by corresponding billed quantities. In accordance with the 2015 DPP Determination, quantities are lagged two years, and thus for this compliance statement, reflect 2017 billable quantities.

The price and quantity schedules included in Appendix C, therefore, include two sets of prices and two sets of quantities comprising:

- pre-PPD posted prices and post-PPD posted prices;
- quantities for each based on the estimated take-up of the PPD.

As we do not have sufficient data to be able to determine for each price, the actual billed quantities where PPD has been applied, and the actual billed quantities where PPD has not been applied, for the 2019 assessment period we have estimated the quantities using the following method.

We have estimated the split between 2017 quantities with PPD applied, and 2017 quantities with no PPD applied. Due to system limitations, the quantity splits have been estimated by reference to the PPD values applied and not applied to applicable consumers. In 2017, the PPD was applied (by value) to 91.20% of the PPD offered. We note that the PPD is applied in full to Major Customers (standard and non-standard) charges and Streetlight charges. Also, De-Energisation and Re-Energisation charges receive no PPD.

Also, the above exercise was undertaken to adjust the 2019 pass-through and recoverable revenue. In 2019, the PPD was applied (by value) to 87.40% of the PPD offered.

3. Compliance with the Quality Standards (Clause 11.2(a)(ii))

TLC does not comply with the requirements of the quality standards at the assessment date, 31 March 2019, as specified in the *Electricity Distribution Services Default Price-Quality Path Determination 2015*.

2019 Reliability Assessment (9.1(a))

Clause 9.1(a) requires compliance with Clause 9.2: To comply with the annual reliability assessment for the current Assessment Period:

- a Non-exempt EDB's SAIDI Assessed Values for the Assessment Period must not exceed the SAIDI Limit specified in Schedule 4A; and
- a Non-exempt EDB's SAIFI Assessed Values for the Assessment Period must not exceed the SAIFI Limit specified in Schedule 4A.

Supporting evidence is presented in Appendices E and F.

Electricity Distribution Services Default Price-Quality Path Determination 2015

Assessment Against the Quality Standards for the Assessment Period ending 31 March 2019

2019 Reliability Assessment (9.1(a))

Clause 9.1(a) requires compliance with Clause 9.2: A Non-exempt EDB's SAIDI and SAIFI Assessed Values for the Assessment Period must not exceed its SAIDI and SAIFI Limits specified in Schedule 4A of the DPP Determination

Test:	$SAIDI_{Assess\ 2018/19} \leq SAIDI_{Limit}$
SAIDI _{Assess 2018/19}	285.55
SAIDI _{Limit}	234.18
	1.219 > 1
Clause 9.1(a) Result:	<i>Exceeds limit</i>

Test:	$SAIFI_{Assess\ 2018/19} \leq SAIFI_{Limit}$
SAIFI _{Assess 2018/19}	4.41
SAIFI _{Limit}	3.47
	1.271 > 1
Clause 9.1(a) Result:	<i>Exceeds limit</i>

Prior Period Reliability Assessment (9.1(b))

Clause 9.1(b): A Non-exempt EDB must have complied with the annual reliability assessments in each of the two preceding Assessment Periods.

Non-compliance is demonstrated in the following tables.

Prior Period Reliability Assessment (9.1(b))

Clause 9.1.(b) requires: compliance with annual reliability assessments for the two preceding Assessment Periods

SAIDI _{Assess 2017/18}	243.34	SAIFI _{Assess 2017/18}	3.75
SAIDI _{Limit 2017/18}	234.18	SAIFI _{Limit 2017/18}	3.47
	1.039		1.081
	> 1		> 1
	<i>Exceeds limit</i>		<i>Exceeds limit</i>

SAIDI _{Assess 2016/17}	251.94	SAIFI _{Assess 2016/17}	3.39
SAIDI _{Limit 2016/17}	234.18	SAIFI _{Limit 2016/17}	3.47
	1.076		0.977
	> 1		< 1
	<i>Exceeds limit</i>		<i>Does not exceed limit</i>

Compliance Summary

Clause 9.1 A Non-exempt EDB must, in respect of each Assessment Period, either:

(a) comply with the annual reliability assessment specified in clause 9.2 for that Assessment Period; or

(b) have complied with the annual reliability assessment in each of the two preceding Assessment Periods

Compliance Summary

Clause 9.1 A Non-exempt EDB must, in respect of each Assessment Period, either:

(a) comply with the annual reliability assessment specified in clause 9.2; or

(b) have complied with those annual reliability assessments for the two immediately preceding extant Assessment Periods

	SAIDI	SAIFI	Compliance
Compliance with 9.1(a) 2018/19 Assessment Period	Exceeds limit	Exceeds limit	<i>Does not comply</i>
or			
Compliance with 9.1(b) 2017/18 Assessment Period	Exceeds limit	Exceeds limit	<i>Does not comply</i>
2016/17 Assessment Period	Exceeds limit	Does not exceed limit	<i>Does not comply</i>
Clause 9.1 Result:			<i>Does not comply</i>

TLC has exceeded the SAIDI and SAIFI compliance limit for the 2019 Assessment period. This represents non-compliance as TLC exceeded the SAIDI limits for the 2016/17 and 2017/18 Assessment periods, and the SAIFI limit for the 2017/2018 Assessment period.

Quality of supply summary 2018/2019

The 2019 year saw TLC exceed its cap for both the SAIDI and SAIFI quality measures. In respect of the SAIDI quality measure, the primary reasons for exceeding the cap related to an increase in planned outages, a continuation of higher vegetation-related outages, and two significant third-party damage incidents. In respect of the SAIFI quality measure, the primary reasons for exceeding the cap related to an increase in planned outages, and two significant wildlife outages. We have provided more detail in relation to the causes of SAIDI and SAIFI quality non-compliance below.

We are committed to improving our reliability performance, and this was a significant focus of our 2018 AMP, and our 2019 AMP Update. The improvements outlined in the 2018 AMP and 2019 AMP Update are targeted to achieve material improvements in reliability between 2020 and 2022. Unfortunately, these improvements have not yet had a material impact on the reliability performance in 2019.

During the 2019 year, we experienced five MEDs, which was twice the number of MEDs that are inherent in the quality targets set for this current regulatory period. While the quality performance for 2019 exceeded the cap, in part as a result of a number of non-typical events, we believe that the improvement programs we have initiated will enable us to achieve the quality standards (both the unplanned and planned) over the long-term.

TLCs Focus on Reliability Improvement

In our 2018 AMP, we committed to aligning our asset management processes to ISO 55000, improving the security of supply to customers, and increase our renewal of key asset classes¹. In the 2018 AMP, system growth capex was increased by 12%, and asset renewal capex was increased by 1% over our 2017 AMP. These key strategies and programs provided the foundation for TLC to improve the quality outcomes from the network.

In our 2019 AMP Update,² we outlined the areas where we are focusing our reliability improvement efforts. These include:

- Improving the security of supply at zone substations (a continuation of the security of supply program included in the 2018 AMP);
- Managing power transformer reliability through increased redundancy;
- Increasing the use of network automation and review of protection;
- Advancing the replacement of equipment that is not achieving the required level of reliability performance;
- Enhancing our vegetation management work.

The 2019 AMP Update forecast a 27% improvement in SAIDI and a 13% improvement in SAIFI between 2020 and 2022 (when compared the 2017 and 2018 performance). This level of improvement should result in TLC achieving a level of unplanned reliability performance within our AMP and regulatory targets³. We are forecasting an increase in planned outages, which will likely see us exceeding the historic planned outage levels that were used to set the current quality

¹ The Lines Company, "Asset Management Plan 2018", 31 March 2018, Sections 1.2.1, 5.3.1, 5.3.3, and 5.2.

² The Lines Company, "Asset Management Plan Update 2019", 31 March 2019, Sections 3.1 to 3.5.

³ For the current regulatory control period, planned and unplanned SAIDI/SAIFI targets are combined. However, we consider that our planned improvements will enable us to achieve a level of unplanned SAIDI/SAIFI below that which is implied in the current quality targets.

targets. However, we are confident that we will be able to comply with the planned interruption quality standards for the next regulatory period⁴.

Increase in Planned Outages

In 2019 TLC's planned outages contributed 149 minutes per customer to SAIDI⁵, which was a >90% increase over the 2018 planned outages and TLC's average planned outages between 2013-2016⁶. TLC's planned outages also contributed 1.093 interruptions per customer to SAIFI⁷, which was a >100% increase over the 2018 planned outages and TLC's average planned outages between 2013-2016. The increase in planned outages was required to enable TLC to complete its planned work program.

TLC undertook a significant review of its network development and renewal activities as part of its 2017/2018 planning cycle. The changes in our development and renewal work and expenditure forecasts were signalled in the 2017 AMP update⁸ and included in the 2018 AMP⁹ and resulted in a lift in capital expenditure from an average of \$12.8 million per annum in the 2017 AMP to an average of \$14.5 million in the 2018 AMP. This higher level of capital expenditure continues to be forecast in our 2019 AMP Update, although there have been some changes in projects and timing.

As a result of the higher capital expenditure, the avoidance of the use of live-line techniques, and the change in earthing processes, the extent of planned outages has increased. This increase in planned outages and the change in the use of live line and earthing techniques were noted in our 2017 compliance statement¹⁰ and explained in the 2017/2018 network quality report provided to the Commission.¹¹

As a result of these changes, we have progressively increased our forecasts for planned outages across our 2017, 2018 and 2019 AMPs.

TLC's planned work program in 2019 was significant, with total capex of \$21.0 million, which was a 45% increase over 2018. Our 2019 works program exceeded our forecast of \$17.5 million included in our 2018 AMP due to additional work being required as a result of the deferment of some planned work in 2018¹². In 2019 TLC considered that further deferment of planned work was not appropriate and that a "catch-up" of the work deferred from 2018 was required, which resulted in the material increase in spend and planned outages.

⁴ Commerce Commission "[Draft] Electricity Distribution Services Default Price-Quality Determination 2020", Schedule 3.1.

⁵ Prior to the application of the 50% weighting in the compliance assessment.

⁶ In 2016/2017, TLC's planned outages contributed 130 SAIDI minutes and 0.86 SAIFI interruptions. The reasons for the increase in planned outages for this year were broadly the same as for 2018/2019 year, hence we excluded the 2016/2017 year from the long-term average in the comparisons.

⁷ Prior to the application of the 50% weighting in the compliance assessment.

⁸ "The Lines Company Limited, Asset Management Plan 2017 Update" 31 March 2017, Sections 3.1 to 3.5.

⁹ "The Lines Company Limited Asset Management Plan 2018" 31 March 2018, Section 1.5.1 and Section 5

¹⁰ "The Lines Company Limited, Default Price Quality Path Compliance Statement", 15 June 2017, p6.

¹¹ "The Lines Company 2017/2018 Network Quality", 29 June 2018 (submission made in response to the Commission's letter of 30 May 2018), p8.

¹² TLC deferred some capital work in 2018 due to our desire to comply with the 2018 quality standards. This was noted in our 2018 compliance statement. Refer "The Lines Company Limited, Default Price Quality Path Compliance Statement", 13 June 2018, p6.

Continuation of Higher Vegetation Related Outages

As in 2018, TLC experienced vegetation-related outages in 2019 above its historic average. Historically, vegetation-related outages have contributed around 23 minutes per customer to SAIDI.¹³ However, in 2018 vegetation outages contributed 57.5 minutes per customer to SAIDI.¹⁴ In 2019, vegetation outages contributed fewer minutes to SAIDI than in 2018 (48.9 minutes) but still above the historic average.

Reducing the occurrence and impact of vegetation outages is a key focus for TLC, and in the 2019 AMP Update, we increased our forecast spend on vegetation management from \$1.0 million to \$1.2 million each year for 2020 and 2021. We have also undertaken a range of other actions, including:

- The appointment of a dedicated Vegetation Manager, who commenced on 6 May 2019;
- Undertaking additional targeted vegetation inspections;
- Appointing additional tree contractors to undertake additional work;
- Introducing new cutting techniques to manage “hard to reach” trees

Other reliability improvement programmes are also expected to reduce the impact of vegetation outages, including:

- The installation of 12 reclosers and two sectionalisers during 2018 and 2019 at a cost of \$380k, with a further \$700k budgeted in 2020;
- A full review of protection co-ordination across the network (scheduled for FY20).

Our analysis in the 2019 AMP Update indicates that we should be able to achieve a material reduction in SAIDI of 33 minutes per customer and a material reduction in SAIFI of 0.20 interruptions per customer (compared to 2018 and 2019 levels) by the end of 2021.

Third-Party Damage Incident

In 2019 TLC experienced two significant third-party damage (**TPD**) outages. The first resulted in a MED on 01 June 2018. This was a fatal vehicle accident¹⁵ that impacted the 33kV supply to 1100 customers for around 21 hours. TLC staff were unable to access the site for approximately six hours to allow for the completion of police investigations, following which assessment and remedial work were completed. As this was on a long weekend and the customers in the area are predominantly holiday homes, the demand was 3 MW, which was above the capacity of the backup supply. The back-up supply (via Turangi Substation) could only be used to supply 488 customers. A generator was utilised to restore supply to those customers that could not be supplied via the back-up supply. Discussion with NZTA around providing barriers around this and other similarly exposed critical poles is underway. As a long term solution, an upgrade to the cable that was restricting our ability to backfeed during this event is planned for this year.

The second TPD outage was caused by a truck damaging an 11kV line. This brought down a dual circuit 11kV and SWER lines. This affected the 1,650 customers connected to the Kuratau substation. The SAIDI and SAIFI contributions of this were 10.5 and 0.07, respectively.

¹³ The average for the period 2013 to 2017 (prior to the application of any MED deductions).

¹⁴ Prior to the application of any MED deductions. In 2019 vegetation related outages contributed 42.8 SAIDI minutes after adjusting for MEDs.

¹⁵ https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12063080

Notwithstanding the application of the MED process, the inclusion of the SAIDI boundary value of 10.97 minutes per customer resulted in the SAIDI contribution from TPDs in 2019 of 29.1 minutes per customer, which was more than 1.5 times the average between 2013 and 2018.

Significant wildlife outages

In 2019 TLC experienced two significant outages caused by wildlife interference with the network. The first affected around 3,900 customers and was caused by bird contact (geese) with a 33kV feeder. This outage contributed 2.88 SAIDI and 0.16 SAIFI, making it a SAIFI MED.

The second outage was on the same feeder and was a result of possum contact. Helicopter inspections revealed a possum at the base of a pole with burn marks on the crossarm. The pole was fitted with a possum guard. This was a relatively short outage at three minutes. However, the SAIFI impact was 0.16 due to the 3,800 customers affected.

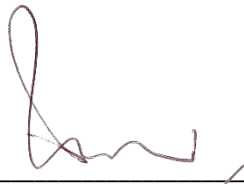
Protection coordination issues between TLC and Transpower resulted in each of these outages affecting approximately 1,850 additional customers. Work is underway with Transpower to resolve the coordination issue.

Notwithstanding the application of the MED process, the inclusion of the SAIFI boundary value of 0.144 interruptions per customer resulted in the SAIFI contribution from wildlife in 2019 of 0.545 interruptions per customer, which was more than 3.8 times the average between 2013 and 2018.

In summary, our 2019 reliability performance exceeded our SAIDI and SAIFI quality cap due to an increase in planned outages, an elevated level of vegetation outages, and a number of significant non-typical outages caused by third-parties and wildlife. As stated above, we are focused on improving our reliability performance through a focused program, and we remain confident that we can achieve an appropriate level of quality performance at the completion of these programs.

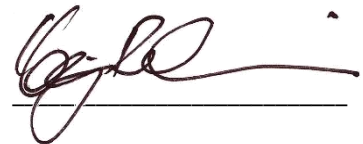
4. Director Certification (Clause 11.3(a))

We, Mark Charles Darrow and Craig Paul Richardson, being directors of The Lines Company Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached Annual Compliance Statement of The Lines Company Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price-Quality Path Determination 2015* are true and accurate.



Mark Charles DARROW
Director

13 June 2019



Craig Paul RICHARDSON
Director



Independent Assurance Report

To the Directors of The Lines Company Limited and the Commerce Commission

The Auditor-General is the auditor of The Lines Company Limited (the company). The Auditor-General has appointed me, Matthew White, using the staff and resources of PricewaterhouseCoopers, to provide an opinion, on his behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2019 on pages 2 to 51 has been prepared, in all material respects, in accordance with the Electricity Distribution Services Default Price-Quality Path Determination 2015 (the Determination).

Directors' responsibilities for the Annual Compliance Statement

The directors of the company are responsible for the preparation of the Annual Compliance Statement in accordance with the Determination, and for such internal control as the directors determine is necessary to enable the preparation of an Annual Compliance Statement that is free from material misstatement.

Our responsibility for the Annual Compliance Statement

Our responsibility is to express an opinion on whether the Annual Compliance Statement has been prepared, in all material respects, in accordance with the Determination.

Basis of opinion

We conducted our engagement in accordance with the International Standard on Assurance Engagements (New Zealand) 3000 (Revised): *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* and the Standard on Assurance Engagements 3100: *Compliance Engagements* issued by the External Reporting Board. Copies of these standards are available on the External Reporting Board's website.

These standards require that we comply with ethical requirements and plan and perform our assurance engagement to provide reasonable assurance about whether the Annual Compliance Statement has been prepared in all material respects in accordance with the Determination.

We have performed procedures to obtain evidence about the amounts and disclosures in the Annual Compliance Statement. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the Annual Compliance Statement, whether due to fraud or error or non-compliance with the Determination. In making those risk assessments, we considered internal control relevant to the company's preparation of the Annual Compliance Statement in order to design procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.

In assessing the disclosures about compliance with the price path in clause 8 of the Determination for the assessment period ended on 31 March 2019, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 2 to 6 and 18 to 43 of the Annual Compliance Statement.

In assessing the disclosures about compliance with the quality standards in clause 9 of the Determination for the assessment period ended on 31 March 2019, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 7 to 13 and 44 to 51 of the Annual Compliance Statement.



Independent Assurance Report

The Lines Company Limited and the Commerce Commission

Our assurance engagement also included assessment of the significant estimates and judgements, if any, made by the company in the preparation of the Annual Compliance Statement.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Use of this report

This independent assurance report has been prepared solely for the directors of the company and for the Commerce Commission for the purpose of providing those parties with reasonable assurance about whether the Annual Compliance Statement has been prepared, in all material respects, in accordance with the Determination. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of the company or the Commerce Commission, or for any other purpose than that for which it was prepared.

Scope and inherent limitations

Because of the inherent limitations of a reasonable assurance engagement, and the test basis of the procedures performed, it is possible that fraud, error or non-compliance may occur and not be detected.

We did not examine every transaction, adjustment or event underlying the Annual Compliance Statement nor do we guarantee complete accuracy of the Annual Compliance Statement. Also we did not evaluate the security and controls over the electronic publication of the Annual Compliance Statement.

The opinion expressed in this independent assurance report has been formed on the above basis.

Independence and quality control

When carrying out the engagement, we complied with the Auditor-General's:

- independence and other ethical requirements, which incorporate the independence and ethical requirements of Professional and Ethical Standard 1 (Revised) issued by the New Zealand Auditing and Assurance Standards Board; and
- quality control requirements, which incorporate the quality control requirements of Professional and Ethical Standard 3 (Amended) issued by the New Zealand Auditing and Assurance Standards Board.

We also complied with the independent auditor requirements specified in the Determination.

The Auditor-General, and his employees, and PricewaterhouseCoopers and its partners and employees may deal with the company and its subsidiaries on normal terms within the ordinary course of trading activities of the company. Other than any dealings on normal terms within the ordinary course of business, this engagement, the annual audit of the company's financial statements, the annual audit of the compliance with Electricity Distribution (Information Disclosure) Determination 2012, and other accounting and regulatory advice which are compatible with those independence requirements, we have no relationship with or interests in the company and its subsidiaries.



Independent Assurance Report **The Lines Company Limited and the Commerce Commission**

Opinion

In our opinion:

- as far as appears from an examination, the information used in the preparation of the Annual Compliance Statement has been properly extracted from the company's accounting and other records, and has been sourced, where appropriate, from its financial and non-financial systems; and
- the Annual Compliance Statement of company for the year ended on 31 March 2019, has been prepared, in all material respects, in accordance with the Determination.

In forming our opinion, we have obtained sufficient recorded evidence and all the information and explanations we have required.

Emphasis of matter

We draw attention to the Compliance approach section of this Annual Compliance Statement, which on page 5, describes the new pricing transition discounts from October 2018, as this has been excluded from the calculation of notional revenue. Further we draw attention to the Basis of Estimates section on page 6 which describes the uncertainty due to the system limitations related to the estimation of the quantities for which the Prompt Payment Discounts apply. Our opinion is not qualified in respect of these matters.

A handwritten signature in blue ink, appearing to read 'M White', is positioned above the printed name.

Matthew White
PricewaterhouseCoopers
On behalf of the Auditor-General
Hamilton, New Zealand
13 June 2019

Appendix A Price Path Compliance Calculations (Clause 11.4(c))

Electricity Distribution Services Default Price-Quality Path Determination 2015 Price Path Inputs and Calculations for the Assessment Period ending 31 March 2019

Allowable Notional Revenue 2018/19		
Term	Description	Value \$
$\Sigma DP_{2017/18} * Q_{2016/17}$	Distribution Prices between 1 April 2017 and 31 March 2018 multiplied by Quantities for year ending 31 March 2017	34,949,036
$ANR_{2017/18} - NR_{2017/18}$	Revenue differential for year ending 31 March 2018	3,613,846
$(1 + DCPI_{2018/19})$	Average change in Consumer Price Index	1.0178
X	X Factor, as specified in Schedule 1 of the DPP Determination	0%
$ANR_{2018/19}$	Allowable Notional Revenue for the year ending 31 March 2019	39,250,628

Notional Revenue 2018/19		
Term	Description	Value \$
$\Sigma DP_{2018/19} * Q_{2016/17}$	Distribution Prices between 1 April 2018 and 31 March 2019 multiplied by Quantities for year ending 31 March 2017	35,919,684
$NR_{2018/19}$	Notional Revenue for the year ending 31 March 2019	35,919,684

Appendix B Pass-through Balance and Pass-through & Recoverable Costs (Clause 11.4(e) – (k))

Electricity Distribution Services Default Price-Quality Path Determination 2015

Pass-through Balance for the Assessment Period ending 31 March 2019

Pass-through Balance 2018/19		
Term	Description	Value \$
<i>PTP</i> _{2018/19} <i>Q</i> _{2018/19}	Pass-through Prices during 2018/19 multiplied by 31 March 2019 Quantities	6,908,270
<i>K</i> _{2018/19}	Rates on system fixed assets for the year ending 31 March 2019	321,433
	Commerce Act levies for the year ending 31 March 2019	84,412
	Electricity Authority levies for the year ending 31 March 2019	62,226
	Utilities Disputes levies for the year ending 31 March 2019	23,305
<i>V</i> _{2018/19}	Transpower transmission charges for the year ending 31 March 2019	5,411,018
	Transpower New Investment Contract charges for the year ending 31 March 2019	-
	System operator services charges for the year ending 31 March 2019	-
	Avoided transmission charges resulting from purchase of transmission assets from Transpower for the year ending 31 March 2019	-
	Distributed generation allowance for the year ending 31 March 2019	1,673,112
	Claw-back for the year ending 31 March 2019	-
	NPV wash-up allowance for the year ending 31 March 2019	-
	Energy efficiency and demand-side management incentive allowance for the year ending 31 March 2019	-
	Catastrophic event allowance for the year ending 31 March 2019	-
	Extended reserves allowance for the year ending 31 March 2019	-
	Quality incentive adjustment for the year ending 31 March 2019	(350,808)
	Capex wash-up adjustment for the year ending 31 March 2019	(290,936)
	Reconsideration event allowance for the year ending 31 March 2019	-
	<i>PTB</i> _{2017/18}	Pass-through balance from previous Assessment Period
<i>r</i>	Cost of Debt	6.09%
<i>PTB</i> _{2017/18 (1+r)}	Pass-through balance from previous Assessment Period multiplied by 1 plus the Cost of Debt	59,480
<i>PTB</i> _{2018/19}	Pass-through balance for the Assessment Period ending 31 March 2019	33,987

Pass-through Balance Reconciliation 2018/19		
Term	Description	Value \$
<i>PTP</i> 2018/19 <i>Q</i> 2018/19	Pass-through Prices during 2018/19 multiplied by 31 March 2019 Quantities	6,908,270
<i>Total Pass-through and Recoverable Costs</i>	Total Pass-through and Recoverable Costs for the year ending 31 March 2019	6,933,763
<i>PTB</i> 2018/19	Pass-through Balance for the Assessment Period ending 31 March 2019	33,987
<i>PTB</i> 2017/18	Pass-through Balance from previous Assessment Period	56,066
<i>Difference</i>	Reconciliation between Pass-through Balance for the Assessment Period with the Pass-through Balance for the preceding Assessment Period	(22,079)

Description of the methodology used to calculate Distribution Prices and Pass-through Prices (clause 11.4(e)(i))

In September 2016 TLC announced an independent review of the demand-based pricing approach. After ten years of demand-based pricing, it was believed that a substantive review was warranted. The terms of reference for the review highlighted the key objectives to optimise equity, simplicity and transparency. Moving from the current demand-based approach to a TOU approach was subsequently recommended as providing an appropriate balance of these objectives. In December 2017, a decision was made by the TLC Board of Directors to move to TOU based pricing from 1 October 2018.

The price change decision meant that the year 1 April 2018 to 31 March 2019 will be priced under two different pricing regimes.

The TOU pricing methodology is different in structure and application to the demand-based methodology that has been in place for the past decade. Prices were set after extensive modelling and consideration of the goals of the new pricing, being to optimise equity, simplicity and transparency. This enabled consideration of the impacts on customers and testing TLC's compliance position relative to the price path. This modelling included engaging expert consultants, documenting the model algorithms and ensuring the outputs were accurate. In addition to the modelling, TLC undertook trials of the new pricing and engaged customers in focus groups to help guide the new pricing and the prices that were set.

The basis of the modelling and new prices was customer kWh data for the period 1 October 2016 to 30 September 2017, i.e. the same set of data that was used in setting the demand quantities from 1 April 2018 to 30 September 2018.

Distribution Prices for the assessment year were considered on a kW and kVA quantity basis from 1 April 2018 and then considered forecast kWh quantities from 1 October 2018 with the introduction of the new pricing. The Low Fixed Charge (LFC) prices varied in percentage movement to ensure compliance with the LFC regulations. A validation exercise was undertaken to ensure

TLC's compliance with the price path and a crosscheck against TLC's cost of supply model in calculating these prices.

Pass-through Prices for the assessment year were determined by estimating pass through and recoverable costs for the year and assessing these cost estimates against kW and kVA quantities from 1 April 2018, and forecast kWh volumes from 1 October 2018.

TLC will continue to monitor prices, the new pricing structure and undertake extensive analysis and further modelling to understand customer behaviour and to ensure our forecasts are accurate.

Electricity Distribution Services Default Price-Quality Path Determination 2015
Pass-through Costs
for the Assessment Period ending 31 March 2019

Pass-through Costs for year ending March 2019				
$K_{2018/19}$	Actual (\$)	Forecast (\$)	Variance (\$)	Variance (%)
Rates on system fixed assets	321,433	271,812	49,621	18.3%
Commerce Act levies	84,412	90,000	(5,588)	(6.2%)
Electricity Authority levies	62,226	80,000	(17,774)	(22.2%)
Utilities Disputes levies	23,305	59,000	(35,695)	(60.5%)
Total Pass-through Costs	491,376	500,812	(9,435)	(1.9%)

Electricity Distribution Services Default Price-Quality Path Determination 2015
Recoverable Costs
for the Assessment Period ending 31 March 2019

Recoverable Costs for year ending March 2019				
$V_{2018/19}$	Actual (\$)	Forecast (\$)	Variance (\$)	Variance (%)
Transpower transmission charges	5,411,018	5,407,000	4,018	0.1%
New investment contract charges	-	-	-	0.0%
System operator services charges	-	-	-	0.0%
Avoided transmission charges - purchases from Transpower	-	-	-	0.0%
Distributed generation allowance	1,673,112	937,000	736,112	78.6%
Claw-back	-	-	-	0.0%
NPV wash-up allowance	-	-	-	0.0%
Energy efficiency allowance	-	-	-	0.0%
Catastrophic event allowance	-	-	-	0.0%
Extended reserves allowance	-	-	-	0.0%
Quality incentive adjustment	(350,808)	(350,808)	-	0.0%
Capex wash-up adjustment	(290,936)	(290,936)	-	0.0%
Reconsideration event allowance	-	-	-	0.0%
Total Recoverable Costs	6,442,387	5,702,256	740,131	13.0%

Explanation for the cause of variance between forecast and actual pass through and recoverable costs for the Assessment Period (clause 11.4(j))

The variance that exists between actual and forecast Electricity Authority levies was due to the actual costs being less than expected. Utilities disputes levies were lower than forecast due to lower numbers of complaints, which reflects in the charges. Rates were higher than anticipated, reflecting increases in local government charges.

The variance in the forecast distributed generation allowance relates to the signalling that ACOT would be unavailable for generators and would no longer be required to be paid by distributors from 1 October 2018. We had forecast this as an adjustment to the allowance, but the decision was to retain ACOT.

Appendix C Price and Quantity Schedules (Clause 11.4(c) – (d))

Summary of distribution notional revenue						
Notional revenue	2018			2019		
	ppd applied	ppd not applied	total	ppd applied	ppd not applied	total
Major Customer Non Standard Dedicated Asset	\$ 3,692,204	\$ -	\$ 3,692,204	\$ 3,757,281	\$ -	\$ 3,757,281
Major Customer Network Charge	\$ 2,652,636	\$ -	\$ 2,652,636	\$ 2,718,894	\$ -	\$ 2,718,894
Major Customer Billing Charge	\$ 63,345	\$ -	\$ 63,345	\$ 64,929	\$ -	\$ 64,929
Streetlights	\$ 691,181	\$ -	\$ 691,181	\$ 708,540	\$ -	\$ 708,540
Standard/LFC Network Demand (April to March)	\$ 5,803,425	\$ 622,201	\$ 6,425,626			
Standard/LFC Demand (April to March)	\$15,949,671	\$1,710,256	\$17,659,927			
Standard/LFC Network Demand (April to September)				\$ 2,969,428	\$ 318,360	\$ 3,287,788
Standard/LFC Demand (April to September)				\$ 7,669,202	\$ 822,173	\$ 8,491,375
TOU Daily (October to March)				\$ 4,911,978	\$ 526,606	\$ 5,438,584
TOU Peak (October to March)				\$ 1,821,228	\$ 195,290	\$ 2,016,518
TOU Shoulder (October to March)				\$ 4,085,642	\$ 438,127	\$ 4,523,770
TOU Off Peak (October to March)				\$ 1,053,810	\$ 112,966	\$ 1,166,776
Non TOU Anytime (October to March)				\$ 959,834	\$ 102,879	\$ 1,062,712
Transformer (April to March)	\$ 2,930,057	\$ 313,902	\$ 3,243,960			
Transformer (April to September)				\$ 1,501,684	\$ 160,876	\$ 1,662,560
Relay (April to March)	\$ 299,267	\$ 32,091	\$ 331,358			
Relay (April to September)				\$ 152,962	\$ 16,404	\$ 169,366
Metering Fee (October to March)				\$ 597,713	\$ 64,078	\$ 661,792
Disconnections/Reconnections	\$ 188,799	\$ -	\$ 188,799	\$ 188,799	\$ -	\$ 188,799
Total notional revenue	\$32,270,585	\$2,678,450	\$34,949,036	\$33,161,924	\$2,757,760	\$35,919,684
Allowable notional revenue 2019						\$39,250,628
Allowable notional revenue/notional revenue difference						\$ 3,330,944
Result	Price path has not been breached					

Table 2 Summary of distribution notional revenue

Major customers - standard and non standard contracts							
	31-Mar-17			31-Mar-18			31-Mar-19
	Quantity (Q _{t-2})	Price (P _{t-1}) per annum	Price (P _{t-1}) net of PPD	Notional Revenue (Q _{t-2} ×P _{t-1})	per annum	Price (P _t) net of PPD	Notional Revenue (Q _{t-2} ×P _t)
Non standard dedicated asset							
	1	\$ 74,446	\$ 67,002	\$ 67,002	\$ 76,308	\$ 68,677	\$ 68,677
	1	\$ 12,528	\$ 11,275	\$ 11,275	\$ 12,841	\$ 11,557	\$ 11,557
	1	\$ 203,023	\$ 182,721	\$ 182,721	\$ 208,099	\$ 187,289	\$ 187,289
	1	\$ 156,000	\$ 156,000	\$ 156,000	\$ 156,000	\$ 156,000	\$ 156,000
	1	\$ 41,280	\$ 41,280	\$ 41,280	\$ 41,280	\$ 41,280	\$ 41,280
	1	\$ 54,338	\$ 48,904	\$ 48,904	\$ 54,338	\$ 48,904	\$ 48,904
	1	\$ 437,047	\$ 393,343	\$ 393,343	\$ 437,047	\$ 393,343	\$ 393,343
	1	\$ 558,104	\$ 502,294	\$ 502,294	\$ 561,310	\$ 505,179	\$ 505,179
	1	\$1,904,227	\$1,713,805	\$ 1,713,805	\$1,960,227	\$1,764,205	\$ 1,764,205
	1	\$ 498,168	\$ 448,351	\$ 448,351	\$ 503,647	\$ 453,283	\$ 453,283
	1	\$ 14,885	\$ 13,396	\$ 13,396	\$ 15,257	\$ 13,731	\$ 13,731
	1	\$ 126,481	\$ 113,833	\$ 113,833	\$ 126,481	\$ 113,833	\$ 113,833
Non standard dedicated asset totals	<u>12</u>			<u>\$ 3,692,204</u>			<u>\$ 3,757,281</u>
Major customer network charge (kVA)							
400 V	240	\$ 125.87	\$ 113.28	\$ 27,187	\$ 129.02	\$ 116.12	\$ 27,869
11 kV Hangatiki	15,910	\$ 119.28	\$ 107.35	\$ 1,707,938	\$ 122.26	\$ 110.03	\$ 1,750,577
11 kV Whakamaru	1,000	\$ 225.77	\$ 203.19	\$ 203,190	\$ 231.41	\$ 208.27	\$ 208,270
11 kV Ohakune	0	\$ 130.51	\$ 117.46	\$ -	\$ 133.77	\$ 120.39	\$ -
11 kV Ongarue	660	\$ 135.23	\$ 121.71	\$ 80,329	\$ 138.61	\$ 124.75	\$ 82,335
11 kV National Park	1,400	\$ 173.55	\$ 156.20	\$ 218,680	\$ 177.89	\$ 160.10	\$ 224,140
11 kV Tokaanu	2,305	\$ 130.64	\$ 117.58	\$ 271,022	\$ 133.91	\$ 120.52	\$ 277,799
33 kV	1,350	\$ 72.37	\$ 65.13	\$ 87,926	\$ 74.18	\$ 66.76	\$ 90,126
Stepped	700	\$ 89.47	\$ 80.52	\$ 56,364	\$ 91.71	\$ 82.54	\$ 57,778
Major customer network charge totals	<u>23,565</u>			<u>\$ 2,652,636</u>			<u>\$ 2,718,894</u>
Billing charge	38	\$ 1,852.20	\$ 1,666.98	\$ 63,345	\$ 1,898.52	\$ 1,708.67	\$ 64,929
Standard and non standard contract notional revenue totals				<u>\$ 6,408,185</u>			<u>\$ 6,541,104</u>

Table 3 Major customers – standard and non-standard contracts

Standard contract and low fixed charge (LFC) network charge														
	31-Mar-17			31-Mar-18						30-Sep-18				
	Quantity (Q _{t-2})			Price (P _{t-1})		Notional revenue (Q _{t-2} ×P _{t-1})				Price (P _t)		Notional revenue (Q _{t-2} ×P _t)		
	A	B (A×PPD%)	C (A×PPD%)	D	E (D×12)	F (E×90%)	G (B×E)	H (C×F)	J	K (J×6)	L (K×90%)	M (B×K)	N (C×L)	
Standard contract (kVA)	Billed	PPD not applied	PPD applied	monthly	yearly	net of PPD	PPD not applied	PPD applied	monthly	six months	net of PPD	PPD not applied	PPD applied	
High Density/Low Voltage														
Hangatiki	19,918	1,753	18,165	\$ 4.37	\$ 52.44	\$ 47.20	\$ 91,927	\$ 857,388	\$ 4.48	\$ 26.88	\$ 24.19	\$ 47,121	\$ 439,411	
Whakamaru	2,848	251	2,597	\$ 4.37	\$ 52.44	\$ 47.20	\$ 13,162	\$ 122,578	\$ 4.48	\$ 26.88	\$ 24.19	\$ 6,747	\$ 62,821	
Ohakune	10,214	899	9,315	\$ 4.39	\$ 52.68	\$ 47.41	\$ 47,359	\$ 441,624	\$ 4.50	\$ 27.00	\$ 24.30	\$ 24,273	\$ 226,355	
Ongarue	11,398	1,003	10,395	\$ 4.40	\$ 52.80	\$ 47.52	\$ 52,958	\$ 493,970	\$ 4.51	\$ 27.06	\$ 24.35	\$ 27,141	\$ 253,118	
National Park	2,403	211	2,192	\$ 5.26	\$ 63.12	\$ 56.81	\$ 13,318	\$ 124,528	\$ 5.39	\$ 32.34	\$ 29.11	\$ 6,824	\$ 63,809	
Tokaanu	18,789	1,653	17,136	\$ 4.39	\$ 52.68	\$ 47.41	\$ 87,080	\$ 812,418	\$ 4.50	\$ 27.00	\$ 24.30	\$ 44,631	\$ 416,405	
Low Density/Low Voltage														
Hangatiki	4,324	381	3,943	\$ 8.41	\$ 100.92	\$ 90.83	\$ 38,451	\$ 358,143	\$ 8.62	\$ 51.72	\$ 46.55	\$ 19,705	\$ 183,547	
Whakamaru	2,173	191	1,982	\$ 7.76	\$ 93.12	\$ 83.81	\$ 17,786	\$ 166,111	\$ 7.95	\$ 47.70	\$ 42.93	\$ 9,111	\$ 85,087	
Ohakune	0	0	0	\$ 6.50	\$ 78.00	\$ 70.20	\$ -	\$ -	\$ 6.66	\$ 39.96	\$ 35.96	\$ -	\$ -	
Ongarue	1,987	175	1,812	\$ 8.46	\$ 101.52	\$ 91.37	\$ 17,766	\$ 165,562	\$ 8.67	\$ 52.02	\$ 46.82	\$ 9,104	\$ 84,838	
National Park	3,968	349	3,619	\$ 7.79	\$ 93.48	\$ 84.13	\$ 32,625	\$ 304,466	\$ 7.98	\$ 47.88	\$ 43.09	\$ 16,710	\$ 155,943	
Tokaanu	155	14	141	\$ 8.45	\$ 101.40	\$ 91.26	\$ 1,420	\$ 12,868	\$ 8.66	\$ 51.96	\$ 46.76	\$ 727	\$ 6,593	
High Density/High Voltage														
Hangatiki	13,300	1,170	12,130	\$ 2.04	\$ 24.48	\$ 22.03	\$ 28,642	\$ 267,224	\$ 2.09	\$ 12.54	\$ 11.29	\$ 14,672	\$ 136,948	
Whakamaru	2,334	205	2,129	\$ 2.04	\$ 24.48	\$ 22.03	\$ 5,018	\$ 46,902	\$ 2.09	\$ 12.54	\$ 11.29	\$ 2,571	\$ 24,036	
Ohakune	1,562	137	1,425	\$ 2.05	\$ 24.60	\$ 22.14	\$ 3,370	\$ 31,550	\$ 2.10	\$ 12.60	\$ 11.34	\$ 1,726	\$ 16,160	
Ongarue	3,046	268	2,778	\$ 2.06	\$ 24.72	\$ 22.25	\$ 6,625	\$ 61,811	\$ 2.11	\$ 12.66	\$ 11.39	\$ 3,393	\$ 31,641	
National Park	648	57	591	\$ 2.47	\$ 29.64	\$ 26.68	\$ 1,689	\$ 15,768	\$ 2.53	\$ 15.18	\$ 13.66	\$ 865	\$ 8,073	
Tokaanu	1,873	165	1,708	\$ 2.06	\$ 24.72	\$ 22.25	\$ 4,079	\$ 38,003	\$ 2.11	\$ 12.66	\$ 11.39	\$ 2,089	\$ 19,454	
Low Density/High Voltage														
Hangatiki	9,585	843	8,742	\$ 4.00	\$ 48.00	\$ 43.20	\$ 40,464	\$ 377,654	\$ 4.10	\$ 24.60	\$ 22.14	\$ 20,738	\$ 193,548	
Whakamaru	14,771	1,300	13,471	\$ 3.70	\$ 44.40	\$ 39.96	\$ 57,720	\$ 538,301	\$ 3.79	\$ 22.74	\$ 20.47	\$ 29,562	\$ 275,751	
Ohakune	0	0	0	\$ 3.08	\$ 36.96	\$ 33.26	\$ -	\$ -	\$ 3.16	\$ 18.96	\$ 17.06	\$ -	\$ -	
Ongarue	3,741	329	3,412	\$ 4.02	\$ 48.24	\$ 43.42	\$ 15,871	\$ 148,149	\$ 4.12	\$ 24.72	\$ 22.25	\$ 8,133	\$ 75,917	
National Park	1,126	99	1,027	\$ 3.70	\$ 44.40	\$ 39.96	\$ 4,396	\$ 41,039	\$ 3.79	\$ 22.74	\$ 20.47	\$ 2,251	\$ 21,023	
Tokaanu	538	47	491	\$ 4.02	\$ 48.24	\$ 43.42	\$ 2,267	\$ 21,319	\$ 4.12	\$ 24.72	\$ 22.25	\$ 1,162	\$ 10,925	
Standard contract totals	130,701	11,500	119,201				\$ 583,993	\$ 5,447,376				\$ 299,256	\$ 2,791,403	
Low fixed charge (No. of ICPs)														
Hangatiki	2,820	248	2,572	\$ 5.07	\$ 60.84	\$ 54.76	\$ 15,088	\$ 140,843	\$ 5.07	\$ 30.42	\$ 27.38	\$ 7,544	\$ 70,421	
Whakamaru	647	57	590	\$ 5.07	\$ 60.84	\$ 54.76	\$ 3,468	\$ 32,308	\$ 5.07	\$ 30.42	\$ 27.38	\$ 1,734	\$ 16,154	
Ohakune	383	34	349	\$ 5.07	\$ 60.84	\$ 54.76	\$ 2,069	\$ 19,111	\$ 5.07	\$ 30.42	\$ 27.38	\$ 1,034	\$ 9,556	
Ongarue	1,771	156	1,615	\$ 5.07	\$ 60.84	\$ 54.76	\$ 9,491	\$ 88,437	\$ 5.07	\$ 30.42	\$ 27.38	\$ 4,746	\$ 44,219	
National Park	199	18	181	\$ 5.07	\$ 60.84	\$ 54.76	\$ 1,095	\$ 9,912	\$ 5.07	\$ 30.42	\$ 27.38	\$ 548	\$ 4,956	
Tokaanu	1,310	115	1,195	\$ 5.07	\$ 60.84	\$ 54.76	\$ 6,997	\$ 65,438	\$ 5.07	\$ 30.42	\$ 27.38	\$ 3,498	\$ 32,719	
Low fixed charge totals	7,130	628	6,502				\$ 38,208	\$ 356,049				\$ 19,104	\$ 178,025	
Total notional revenue							\$ 622,201	\$ 5,803,425				\$ 318,360	\$ 2,969,428	

Table 4 Standard contract and low fixed charge (LFC) network charge

Standard contract and low fixed charge (LFC) network charge												
pricing code	no. of ICPs	density	load	31-Mar-17			Price (P)		31-Mar-19			
				Quantity (Q ₂)					Notional Revenue (Q ₂ ×P)			
				t-2	t-2	t-2	Daily (\$ per day)	Daily (\$ per day net of PPD)				
				Billed	PPD not applied	PPD applied						
RT-LFC-HC	4,537	High	Controlled	825,734	72,665	753,069	\$ 0.1667	\$ 0.1500	\$ 12,113	\$ 112,960	\$ 125,074	
RT-LFC-LC	996	Low	Controlled	181,272	15,952	165,320	\$ 0.1667	\$ 0.1500	\$ 2,659	\$ 24,798	\$ 27,457	
RT-LFC-HU	1,146	High	Uncontrolled	208,572	18,354	190,218	\$ 0.1667	\$ 0.1500	\$ 3,060	\$ 28,533	\$ 31,592	
RT-LFC-LU	340	Low	Uncontrolled	61,880	5,445	56,435	\$ 0.1667	\$ 0.1500	\$ 908	\$ 8,465	\$ 9,373	
RT-STD-HC	2,662	High	Controlled	484,484	42,635	441,849	\$ 0.8054	\$ 0.7249	\$ 34,338	\$ 320,296	\$ 354,635	
RT-STD-LC	1,063	Low	Controlled	193,466	17,025	176,441	\$ 1.4889	\$ 1.3400	\$ 25,349	\$ 236,431	\$ 261,779	
RT-STD-HU	578	High	Uncontrolled	105,196	9,257	95,939	\$ 0.8054	\$ 0.7249	\$ 7,456	\$ 69,546	\$ 77,002	
RT-STD-LU	224	Low	Uncontrolled	40,768	3,588	37,180	\$ 1.4889	\$ 1.3400	\$ 5,342	\$ 49,821	\$ 55,163	
GT-15-HC	506	High	Controlled	92,092	8,104	83,988	\$ 1.6667	\$ 1.5000	\$ 13,507	\$ 125,982	\$ 139,489	
GT-15-LC	290	Low	Controlled	52,780	4,645	48,135	\$ 2.3778	\$ 2.1400	\$ 11,045	\$ 103,009	\$ 114,054	
GT-15-HU	1,789	High	Uncontrolled	325,598	28,653	296,945	\$ 1.6667	\$ 1.5000	\$ 47,756	\$ 445,418	\$ 493,173	
GT-15-LU	1,677	Low	Uncontrolled	305,214	26,859	278,355	\$ 2.3778	\$ 2.1400	\$ 63,865	\$ 595,680	\$ 659,545	
GT-30-HC	60	High	Controlled	10,920	961	9,959	\$ 3.3889	\$ 3.0500	\$ 3,257	\$ 30,375	\$ 33,632	
GT-30-LC	13	Low	Controlled	2,366	208	2,158	\$ 4.4444	\$ 4.0000	\$ 924	\$ 8,632	\$ 9,556	
GT-30-HU	235	High	Uncontrolled	42,770	3,764	39,006	\$ 3.3889	\$ 3.0500	\$ 12,756	\$ 118,968	\$ 131,724	
GT-30-LU	51	Low	Uncontrolled	9,282	817	8,465	\$ 4.4444	\$ 4.0000	\$ 3,631	\$ 33,860	\$ 37,491	
GT-70-H	100	High	n/a	18,200	1,602	16,598	\$ 7.5000	\$ 6.7500	\$ 12,015	\$ 112,037	\$ 124,052	
GT-70-L	16	Low	n/a	2,912	256	2,656	\$ 10.0000	\$ 9.0000	\$ 2,560	\$ 23,904	\$ 26,464	
GT-150-H	28	High	n/a	5,096	448	4,648	\$ 15.6667	\$ 14.1000	\$ 7,019	\$ 65,537	\$ 72,555	
GT-150-L	3	Low	n/a	546	48	498	\$ 20.5556	\$ 18.5000	\$ 987	\$ 9,213	\$ 10,200	
TT-15-HC	2,173	High	Controlled	395,486	34,803	360,683	\$ 2.1271	\$ 1.9144	\$ 74,029	\$ 690,492	\$ 764,521	
TT-15-LC	148	Low	Controlled	26,936	2,370	24,566	\$ 3.0346	\$ 2.7311	\$ 7,192	\$ 67,092	\$ 74,284	
TT-15-HU	966	High	Uncontrolled	175,812	15,471	160,341	\$ 2.1271	\$ 1.9144	\$ 32,908	\$ 306,957	\$ 339,865	
TT-15-LU	213	Low	Uncontrolled	38,766	3,411	35,355	\$ 3.0346	\$ 2.7311	\$ 10,351	\$ 96,558	\$ 106,909	
TT-30-HC	51	High	Controlled	9,282	817	8,465	\$ 4.3249	\$ 3.8924	\$ 3,533	\$ 32,949	\$ 36,483	
TT-30-LC	9	Low	Controlled	1,638	144	1,494	\$ 5.6720	\$ 5.1048	\$ 817	\$ 7,627	\$ 8,443	
TT-30-HU	53	High	Uncontrolled	9,646	849	8,797	\$ 4.3249	\$ 3.8924	\$ 3,672	\$ 34,241	\$ 37,913	
TT-30-LU	17	Low	Uncontrolled	3,094	272	2,822	\$ 5.6720	\$ 5.1048	\$ 1,543	\$ 14,406	\$ 15,949	
TT-70-H	36	High	n/a	6,552	577	5,975	\$ 9.5716	\$ 8.6144	\$ 5,523	\$ 51,471	\$ 56,994	
TT-70-L	29	Low	n/a	5,278	464	4,814	\$ 12.7621	\$ 11.4859	\$ 5,922	\$ 55,293	\$ 61,215	
TT-150-H	10	High	n/a	1,820	160	1,660	\$ 19.9940	\$ 17.9946	\$ 3,199	\$ 29,871	\$ 33,070	
TT-150-L	2	Low	n/a	364	32	332	\$ 26.2333	\$ 23.6100	\$ 839	\$ 7,839	\$ 8,678	
DT-15-HC	11	High	Controlled	2,002	176	1,826	\$ 1.2713	\$ 1.1442	\$ 224	\$ 2,089	\$ 2,313	
DT-15-LC	4	Low	Controlled	728	64	664	\$ 1.8137	\$ 1.6323	\$ 116	\$ 1,084	\$ 1,200	
DT-15-HU	11	High	Uncontrolled	2,002	176	1,826	\$ 1.2713	\$ 1.1442	\$ 224	\$ 2,089	\$ 2,313	
DT-15-LU	11	Low	Uncontrolled	2,002	176	1,826	\$ 1.8137	\$ 1.6323	\$ 319	\$ 2,981	\$ 3,300	
DT-30-HC	25	High	Controlled	4,550	400	4,150	\$ 2.5849	\$ 2.3264	\$ 1,034	\$ 9,655	\$ 10,689	
DT-30-LC	9	Low	Controlled	1,638	144	1,494	\$ 3.3900	\$ 3.0510	\$ 488	\$ 4,558	\$ 5,046	
DT-30-HU	29	High	Uncontrolled	5,278	464	4,814	\$ 2.5849	\$ 2.3264	\$ 1,199	\$ 11,199	\$ 12,399	
DT-30-LU	18	Low	Uncontrolled	3,276	288	2,988	\$ 3.3900	\$ 3.0510	\$ 976	\$ 9,116	\$ 10,093	
DT-70-H	119	High	n/a	21,658	1,906	19,752	\$ 5.7208	\$ 5.1487	\$ 10,904	\$ 101,697	\$ 112,601	
DT-70-L	149	Low	n/a	27,118	2,386	24,732	\$ 7.6277	\$ 6.8649	\$ 18,200	\$ 169,783	\$ 187,982	
DT-150-H	13	High	n/a	2,366	208	2,158	\$ 11.9501	\$ 10.7551	\$ 2,486	\$ 23,210	\$ 25,695	
DT-150-L	34	Low	n/a	6,188	545	5,643	\$ 15.6792	\$ 14.1113	\$ 8,545	\$ 79,630	\$ 88,175	
RN-LFC-HC	642	High	Controlled	116,844	10,282	106,562	\$ 0.1667	\$ 0.1500	\$ 1,714	\$ 15,984	\$ 17,698	
RN-LFC-LC	161	Low	Controlled	29,302	2,579	26,723	\$ 0.1667	\$ 0.1500	\$ 430	\$ 4,008	\$ 4,438	
RN-LFC-HU	94	High	Uncontrolled	17,108	1,506	15,602	\$ 0.1667	\$ 0.1500	\$ 251	\$ 2,340	\$ 2,591	
RN-LFC-LU	37	Low	Uncontrolled	6,734	593	6,141	\$ 0.1667	\$ 0.1500	\$ 99	\$ 921	\$ 1,020	
RN-STD-HC	416	High	Controlled	75,712	6,663	69,049	\$ 0.8054	\$ 0.7249	\$ 5,366	\$ 50,054	\$ 55,420	
RN-STD-LC	132	Low	Controlled	24,024	2,114	21,910	\$ 1.4889	\$ 1.3400	\$ 3,148	\$ 29,359	\$ 32,507	
RN-STD-HU	34	High	Uncontrolled	6,188	545	5,643	\$ 0.8054	\$ 0.7249	\$ 439	\$ 4,091	\$ 4,530	
RN-STD-LU	10	Low	Uncontrolled	1,820	160	1,660	\$ 1.4889	\$ 1.3400	\$ 238	\$ 2,224	\$ 2,463	
GN-15-HC	132	High	Controlled	24,024	2,114	21,910	\$ 1.6667	\$ 1.5000	\$ 3,523	\$ 32,865	\$ 36,388	
GN-15-LC	63	Low	Controlled	11,466	1,009	10,457	\$ 2.3778	\$ 2.1400	\$ 2,399	\$ 22,378	\$ 24,777	
GN-15-HU	390	High	Uncontrolled	70,980	6,246	64,734	\$ 1.6667	\$ 1.5000	\$ 10,410	\$ 97,101	\$ 107,511	
GN-15-LU	265	Low	Uncontrolled	48,230	4,244	43,986	\$ 2.3778	\$ 2.1400	\$ 10,091	\$ 94,130	\$ 104,221	
GN-30-HC	11	High	Controlled	2,002	176	1,826	\$ 3.3889	\$ 3.0500	\$ 596	\$ 5,569	\$ 6,166	
GN-30-LC	4	Low	Controlled	728	64	664	\$ 4.4444	\$ 4.0000	\$ 284	\$ 2,656	\$ 2,940	
GN-30-HU	51	High	Uncontrolled	9,282	817	8,465	\$ 3.3889	\$ 3.0500	\$ 2,769	\$ 25,818	\$ 28,587	
GN-30-LU	14	Low	Uncontrolled	2,548	224	2,324	\$ 4.4444	\$ 4.0000	\$ 996	\$ 9,296	\$ 10,292	
GN-70-H	41	High	n/a	7,462	657	6,805	\$ 7.5000	\$ 6.7500	\$ 4,928	\$ 45,934	\$ 50,861	
GN-70-L	2	Low	n/a	364	32	332	\$ 10.0000	\$ 9.0000	\$ 320	\$ 2,988	\$ 3,308	
GN-150-H	5	High	n/a	910	80	830	\$ 15.6667	\$ 14.1000	\$ 1,253	\$ 11,703	\$ 12,956	
GN-150-L	0	Low	n/a	0	0	0	\$ 20.5556	\$ 18.5000	\$ -	\$ -	\$ -	
TN-15-HC	157	High	Controlled	28,574	2,515	26,059	\$ 2.1271	\$ 1.9144	\$ 5,350	\$ 49,887	\$ 55,237	
TN-15-LC	18	Low	Controlled	3,276	288	2,988	\$ 3.0346	\$ 2.7311	\$ 874	\$ 8,161	\$ 9,034	
TN-15-HU	42	High	Uncontrolled	7,644	673	6,971	\$ 2.1271	\$ 1.9144	\$ 1,432	\$ 13,345	\$ 14,777	
TN-15-LU	12	Low	Uncontrolled	2,184	192	1,992	\$ 3.0346	\$ 2.7311	\$ 583	\$ 5,440	\$ 6,023	
TN-30-HC	3	High	Controlled	546	48	498	\$ 4.3249	\$ 3.8924	\$ 208	\$ 1,938	\$ 2,146	
TN-30-LC	0	Low	Controlled	0	0	0	\$ 5.6720	\$ 5.1048	\$ -	\$ -	\$ -	
TN-30-HU	3	High	Uncontrolled	546	48	498	\$ 4.3249	\$ 3.8924	\$ 208	\$ 1,938	\$ 2,146	
TN-30-LU	0	Low	Uncontrolled	0	0	0	\$ 5.6720	\$ 5.1048	\$ -	\$ -	\$ -	
TN-70-H	7	High	n/a	1,274	112	1,162	\$ 9.5716	\$ 8.6144	\$ 1,072	\$ 10,010	\$ 11,082	
TN-70-L	5	Low	n/a	910	80	830	\$ 12.7621	\$ 11.4859	\$ 1,021	\$ 9,533	\$ 10,554	
TN-150-H	0	High	n/a	0	0	0	\$ 19.9940	\$ 17.9946	\$ -	\$ -	\$ -	
TN-150-L	0	Low	n/a	0	0	0	\$ 26.2333	\$ 23.6100	\$ -	\$ -	\$ -	
DN-15-HC	2	High	Controlled	364	32	332	\$ 1.2713	\$ 1.1442	\$ 41	\$ 380	\$ 421	
DN-15-LC	1	Low	Controlled	182	16	166	\$ 1.8137	\$ 1.6323	\$ 29	\$ 271	\$ 300	
DN-15-HU	0	High	Uncontrolled	0	0	0	\$ 1.2713	\$ 1.1442	\$ -	\$ -	\$ -	
DN-15-LU	0	Low	Uncontrolled	0	0	0	\$ 1.8137	\$ 1.6323	\$ -	\$ -	\$ -	
DN-30-HC	0	High	Controlled	0	0	0	\$ 2.5849	\$ 2.3264	\$ -	\$ -	\$ -	
DN-30-LC	2	Low	Controlled	364	32	332	\$ 3.3900	\$ 3.0510	\$ 108	\$ 1,013	\$ 1,121	
DN-30-HU	0	High	Uncontrolled	0	0	0	\$ 2.5849	\$ 2.3264	\$ -	\$ -	\$ -	
DN-30-LU	0	Low	Uncontrolled	0	0	0	\$ 3.3900	\$ 3.0510	\$ -	\$ -	\$ -	
DN-70-H	7	High	n/a	1,274	112	1,162	\$ 5.7208	\$ 5.1487	\$ 641	\$ 5,983	\$ 6,624	
DN-70-L	2	Low	n/a	364	32	332	\$ 7.6277	\$ 6.8649	\$ 244	\$ 2,279	\$ 2,523	
DN-150-H	0	High	n/a	0	0	0	\$ 11.9501	\$ 10.7551	\$ -	\$ -	\$ -	
DN-150-L	3	Low	n/a	546	48	498	\$ 15.6792	\$ 14.1113	\$ 753	\$ 7,027	\$ 7,780	
				4,226,404	371,922	3,854,482			\$526,606	\$4,911,978	\$5,438,584	

Table 9 Standard contract and low fixed charge (LFC) network charge

Standard contract and low fixed charge (LFC) peak

				31-Mar-17			31-Mar-19			
				Quantity (Q _{t-2})			Price (P _t)	Notional Revenue (Q _{t-2} ×P _t)		
pricing code	no. of ICs	density	load	t-2	t-2	t-2	\$ per kWh	\$ per kWh (net of ppd)	\$	\$
				Billed	Billed PPD not applied	Billed PPD applied				
RT-LFC-HC	4,537	High	Controlled	2,661,595	234,220	2,427,375	\$ 0.1069	\$ 0.0962	\$ 25,038	\$ 233,513
RT-LFC-LC	996	Low	Controlled	606,810	53,399	553,410	\$ 0.1380	\$ 0.1242	\$ 7,369	\$ 68,734
RT-LFC-HU	1,146	High	Uncontrolled	616,487	54,251	562,236	\$ 0.1769	\$ 0.1592	\$ 9,597	\$ 89,508
RT-LFC-LU	340	Low	Uncontrolled	173,736	15,289	158,447	\$ 0.2080	\$ 0.1872	\$ 3,180	\$ 29,661
RT-STD-HC	2,662	High	Controlled	3,454,549	304,000	3,150,548	\$ 0.0778	\$ 0.0700	\$ 23,651	\$ 220,538
RT-STD-LC	1,063	Low	Controlled	1,585,690	139,541	1,446,149	\$ 0.0778	\$ 0.0700	\$ 10,856	\$ 101,230
RT-STD-HU	578	High	Uncontrolled	731,918	64,409	667,509	\$ 0.1478	\$ 0.1330	\$ 9,520	\$ 88,779
RT-STD-LU	224	Low	Uncontrolled	316,722	27,872	288,850	\$ 0.1478	\$ 0.1330	\$ 4,119	\$ 38,417
GT-15-HC	506	High	Controlled	342,639	30,152	312,487	\$ 0.0734	\$ 0.0661	\$ 2,213	\$ 20,655
GT-15-LC	290	Low	Controlled	177,830	15,649	162,181	\$ 0.0734	\$ 0.0661	\$ 1,149	\$ 10,720
GT-15-HU	1,789	High	Uncontrolled	973,488	85,667	887,821	\$ 0.1289	\$ 0.1160	\$ 11,042	\$ 102,987
GT-15-LU	1,677	Low	Uncontrolled	904,596	79,604	824,992	\$ 0.1289	\$ 0.1160	\$ 10,261	\$ 95,699
GT-30-HC	60	High	Controlled	228,142	20,077	208,066	\$ 0.0878	\$ 0.0790	\$ 1,763	\$ 16,437
GT-30-LC	13	Low	Controlled	80,236	7,061	73,175	\$ 0.0878	\$ 0.0790	\$ 620	\$ 5,781
GT-30-HU	235	High	Uncontrolled	808,414	71,140	737,274	\$ 0.1067	\$ 0.0960	\$ 7,591	\$ 70,778
GT-30-LU	51	Low	Uncontrolled	157,262	13,839	143,423	\$ 0.1067	\$ 0.0960	\$ 1,477	\$ 13,769
GT-70-H	100	High	n/a	718,447	63,223	655,224	\$ 0.0767	\$ 0.0690	\$ 4,849	\$ 45,210
GT-70-L	16	Low	n/a	106,608	9,382	97,227	\$ 0.0767	\$ 0.0690	\$ 720	\$ 6,709
GT-150-H	28	High	n/a	428,221	37,683	390,538	\$ 0.0611	\$ 0.0550	\$ 2,302	\$ 21,480
GT-150-L	3	Low	n/a	53,300	4,690	48,609	\$ 0.0611	\$ 0.0550	\$ 287	\$ 2,673
TT-15-HC	2,173	High	Controlled	643,786	56,653	587,133	\$ 0.0734	\$ 0.0661	\$ 4,158	\$ 38,809
TT-15-LC	148	Low	Controlled	74,918	6,593	68,326	\$ 0.0734	\$ 0.0661	\$ 484	\$ 4,516
TT-15-HU	966	High	Uncontrolled	274,117	24,122	249,995	\$ 0.1289	\$ 0.1160	\$ 3,109	\$ 28,999
TT-15-LU	213	Low	Uncontrolled	53,772	4,732	49,040	\$ 0.1289	\$ 0.1160	\$ 610	\$ 5,689
TT-30-HC	51	High	Controlled	87,242	7,677	79,565	\$ 0.0878	\$ 0.0790	\$ 674	\$ 6,286
TT-30-LC	9	Low	Controlled	10,595	932	9,663	\$ 0.0878	\$ 0.0790	\$ 82	\$ 763
TT-30-HU	53	High	Uncontrolled	97,330	8,565	88,765	\$ 0.1067	\$ 0.0960	\$ 914	\$ 8,521
TT-30-LU	17	Low	Uncontrolled	22,122	1,947	20,175	\$ 0.1067	\$ 0.0960	\$ 208	\$ 1,937
TT-70-H	36	High	n/a	317,522	27,942	289,580	\$ 0.0767	\$ 0.0690	\$ 2,143	\$ 19,981
TT-70-L	29	Low	n/a	69,695	6,133	63,562	\$ 0.0767	\$ 0.0690	\$ 470	\$ 4,386
TT-150-H	10	High	n/a	148,398	13,059	135,339	\$ 0.0611	\$ 0.0550	\$ 798	\$ 7,444
TT-150-L	2	Low	n/a	57,480	5,058	52,421	\$ 0.0611	\$ 0.0550	\$ 309	\$ 2,883
DT-15-HC	11	High	Controlled	19,280	1,697	17,583	\$ 0.0734	\$ 0.0661	\$ 125	\$ 1,162
DT-15-LC	4	Low	Controlled	14,747	1,298	13,449	\$ 0.0734	\$ 0.0661	\$ 95	\$ 889
DT-15-HU	11	High	Uncontrolled	27,457	2,416	25,041	\$ 0.1289	\$ 0.1160	\$ 311	\$ 2,905
DT-15-LU	11	Low	Uncontrolled	84,470	7,433	77,036	\$ 0.1289	\$ 0.1160	\$ 958	\$ 8,936
DT-30-HC	25	High	Controlled	228,979	20,150	208,829	\$ 0.0878	\$ 0.0790	\$ 1,769	\$ 16,497
DT-30-LC	9	Low	Controlled	80,019	7,042	72,978	\$ 0.0878	\$ 0.0790	\$ 618	\$ 5,765
DT-30-HU	29	High	Uncontrolled	227,250	19,998	207,252	\$ 0.1067	\$ 0.0960	\$ 2,134	\$ 19,896
DT-30-LU	18	Low	Uncontrolled	173,975	15,310	158,665	\$ 0.1067	\$ 0.0960	\$ 1,634	\$ 15,232
DT-70-H	119	High	n/a	1,751,001	154,088	1,596,913	\$ 0.0767	\$ 0.0690	\$ 11,819	\$ 110,187
DT-70-L	149	Low	n/a	2,522,429	221,974	2,300,455	\$ 0.0767	\$ 0.0690	\$ 17,025	\$ 158,731
DT-150-H	13	High	n/a	336,025	29,570	306,455	\$ 0.0611	\$ 0.0550	\$ 1,807	\$ 16,855
DT-150-L	34	Low	n/a	1,010,301	88,906	921,394	\$ 0.0611	\$ 0.0550	\$ 5,432	\$ 50,677
				23,459,599	2,064,443	21,395,155			\$195,290	\$ 1,821,228

Table 10 Standard contract and low fixed charge (LFC) peak

Standard contract and low fixed charge (LFC) shoulder												
				31-Mar-17			31-Mar-19					
				Quantity (Q _{t-2})			Price (P _t)		Notional Revenue (Q _{t-2} ×P _t)			
pricing code	no. of ICPs	density	load	t-2	t-2	t-2	\$ per kWh	\$ per kWh (net of ppd)	\$	\$	\$	\$
				Billed	Billed PPD	not applied						
RT-LFC-HC	4,537	High	Controlled	4,978,585	438,115	4,540,469	\$ 0.1447	\$ 0.1302	\$ 63,395	\$ 591,169		
RT-LFC-LC	996	Low	Controlled	1,131,429	99,566	1,031,863	\$ 0.1758	\$ 0.1582	\$ 17,504	\$ 163,241		
RT-LFC-HU	1,146	High	Uncontrolled	1,165,552	102,569	1,062,984	\$ 0.1447	\$ 0.1302	\$ 14,842	\$ 138,401		
RT-LFC-LU	340	Low	Uncontrolled	323,460	28,464	294,995	\$ 0.1758	\$ 0.1582	\$ 5,004	\$ 46,668		
RT-STD-HC	2,662	High	Controlled	6,512,779	573,125	5,939,655	\$ 0.1156	\$ 0.1040	\$ 66,253	\$ 617,724		
RT-STD-LC	1,063	Low	Controlled	2,926,287	257,513	2,668,774	\$ 0.1156	\$ 0.1040	\$ 29,769	\$ 277,552		
RT-STD-HU	578	High	Uncontrolled	1,382,852	121,691	1,261,161	\$ 0.1156	\$ 0.1040	\$ 14,067	\$ 131,161		
RT-STD-LU	224	Low	Uncontrolled	585,241	51,501	533,739	\$ 0.1156	\$ 0.1040	\$ 5,954	\$ 55,509		
GT-15-HC	506	High	Controlled	733,661	64,562	669,098	\$ 0.1156	\$ 0.1040	\$ 7,463	\$ 69,586		
GT-15-LC	290	Low	Controlled	346,442	30,487	315,956	\$ 0.1156	\$ 0.1040	\$ 3,524	\$ 32,859		
GT-15-HU	1,789	High	Uncontrolled	2,340,769	205,988	2,134,782	\$ 0.1156	\$ 0.1040	\$ 23,812	\$ 222,017		
GT-15-LU	1,677	Low	Uncontrolled	1,971,354	173,479	1,797,875	\$ 0.1156	\$ 0.1040	\$ 20,054	\$ 186,979		
GT-30-HC	60	High	Controlled	503,017	44,266	458,752	\$ 0.1011	\$ 0.0910	\$ 4,475	\$ 41,746		
GT-30-LC	13	Low	Controlled	149,720	13,175	136,545	\$ 0.1011	\$ 0.0910	\$ 1,332	\$ 12,426		
GT-30-HU	235	High	Uncontrolled	2,054,587	180,804	1,873,784	\$ 0.1011	\$ 0.0910	\$ 18,279	\$ 170,514		
GT-30-LU	51	Low	Uncontrolled	356,917	31,409	325,508	\$ 0.1011	\$ 0.0910	\$ 3,175	\$ 29,621		
GT-70-H	100	High	n/a	1,725,507	151,845	1,573,663	\$ 0.0900	\$ 0.0810	\$ 13,666	\$ 127,467		
GT-70-L	16	Low	n/a	216,229	19,028	197,201	\$ 0.0900	\$ 0.0810	\$ 1,713	\$ 15,973		
GT-150-H	28	High	n/a	1,166,409	102,644	1,063,765	\$ 0.0789	\$ 0.0710	\$ 8,099	\$ 75,527		
GT-150-L	3	Low	n/a	116,727	10,272	106,455	\$ 0.0789	\$ 0.0710	\$ 810	\$ 7,558		
TT-15-HC	2,173	High	Controlled	1,277,409	112,412	1,164,997	\$ 0.1156	\$ 0.1040	\$ 12,995	\$ 121,160		
TT-15-LC	148	Low	Controlled	150,650	13,257	137,393	\$ 0.1156	\$ 0.1040	\$ 1,533	\$ 14,289		
TT-15-HU	966	High	Uncontrolled	549,502	48,356	501,146	\$ 0.1156	\$ 0.1040	\$ 5,590	\$ 52,119		
TT-15-LU	213	Low	Uncontrolled	110,592	9,732	100,859	\$ 0.1156	\$ 0.1040	\$ 1,125	\$ 10,489		
TT-30-HC	51	High	Controlled	164,563	14,482	150,081	\$ 0.1011	\$ 0.0910	\$ 1,464	\$ 13,657		
TT-30-LC	9	Low	Controlled	18,615	1,638	16,977	\$ 0.1011	\$ 0.0910	\$ 166	\$ 1,545		
TT-30-HU	53	High	Uncontrolled	182,576	16,067	166,509	\$ 0.1011	\$ 0.0910	\$ 1,624	\$ 15,152		
TT-30-LU	17	Low	Uncontrolled	38,546	3,392	35,154	\$ 0.1011	\$ 0.0910	\$ 343	\$ 3,199		
TT-70-H	36	High	n/a	631,212	55,547	575,666	\$ 0.0900	\$ 0.0810	\$ 4,999	\$ 46,629		
TT-70-L	29	Low	n/a	130,498	11,484	119,014	\$ 0.0900	\$ 0.0810	\$ 1,034	\$ 9,640		
TT-150-H	10	High	n/a	276,396	24,323	252,073	\$ 0.0789	\$ 0.0710	\$ 1,919	\$ 17,897		
TT-150-L	2	Low	n/a	97,417	8,573	88,844	\$ 0.0789	\$ 0.0710	\$ 676	\$ 6,308		
DT-15-HC	11	High	Controlled	27,934	2,458	25,475	\$ 0.1156	\$ 0.1040	\$ 284	\$ 2,649		
DT-15-LC	4	Low	Controlled	28,044	2,468	25,576	\$ 0.1156	\$ 0.1040	\$ 285	\$ 2,660		
DT-15-HU	11	High	Uncontrolled	41,758	3,675	38,083	\$ 0.1156	\$ 0.1040	\$ 425	\$ 3,961		
DT-15-LU	11	Low	Uncontrolled	138,283	12,169	126,114	\$ 0.1156	\$ 0.1040	\$ 1,407	\$ 13,116		
DT-30-HC	25	High	Controlled	324,647	28,569	296,078	\$ 0.1011	\$ 0.0910	\$ 2,888	\$ 26,943		
DT-30-LC	9	Low	Controlled	107,307	9,443	97,864	\$ 0.1011	\$ 0.0910	\$ 955	\$ 8,906		
DT-30-HU	29	High	Uncontrolled	338,359	29,776	308,583	\$ 0.1011	\$ 0.0910	\$ 3,010	\$ 28,081		
DT-30-LU	18	Low	Uncontrolled	261,135	22,980	238,155	\$ 0.1011	\$ 0.0910	\$ 2,323	\$ 21,672		
DT-70-H	119	High	n/a	2,677,981	235,662	2,442,319	\$ 0.0900	\$ 0.0810	\$ 21,210	\$ 197,828		
DT-70-L	149	Low	n/a	4,114,152	362,045	3,752,107	\$ 0.0900	\$ 0.0810	\$ 32,584	\$ 303,921		
DT-150-H	13	High	n/a	533,181	46,920	486,261	\$ 0.0789	\$ 0.0710	\$ 3,702	\$ 34,525		
DT-150-L	34	Low	n/a	1,785,225	157,100	1,628,125	\$ 0.0789	\$ 0.0710	\$ 12,395	\$ 115,597		
				44,693,505	3,933,031	40,760,477			\$438,127	\$ 4,085,642		

Table 11 Standard contract and low fixed charge (LFC) shoulder

Standard contract and low fixed charge (LFC) off peak											
				31-Mar-17			31-Mar-19				
				Quantity (Q _{t-2})			Price (P _t)		Notional Revenue (Q _{t-2} ×P _t)		
pricing code	no. of ICPS	density	load	t-2	t-2	t-2	\$ per kWh	\$ per kWh (net of ppd)			
				Billed	not applied	Billed PPD applied					
RT-LFC-HC	4,537	High	Controlled	2,193,522	193,030	2,000,492	\$ 0.0902	\$ 0.0812	\$ 17,411	\$ 162,440	
RT-LFC-LC	996	Low	Controlled	514,865	45,308	469,557	\$ 0.1213	\$ 0.1092	\$ 5,496	\$ 51,276	
RT-LFC-HU	1,146	High	Uncontrolled	537,456	47,296	490,160	\$ 0.0902	\$ 0.0812	\$ 4,266	\$ 39,801	
RT-LFC-LU	340	Low	Uncontrolled	145,482	12,802	132,679	\$ 0.1213	\$ 0.1092	\$ 1,553	\$ 14,489	
RT-STD-HC	2,662	High	Controlled	2,873,805	252,895	2,620,910	\$ 0.0611	\$ 0.0550	\$ 15,452	\$ 144,150	
RT-STD-LC	1,063	Low	Controlled	1,318,966	116,069	1,202,897	\$ 0.0611	\$ 0.0550	\$ 7,092	\$ 66,159	
RT-STD-HU	578	High	Uncontrolled	634,749	55,858	578,891	\$ 0.0611	\$ 0.0550	\$ 3,413	\$ 31,839	
RT-STD-LU	224	Low	Uncontrolled	265,224	23,340	241,884	\$ 0.0611	\$ 0.0550	\$ 1,426	\$ 13,304	
GT-15-HC	506	High	Controlled	333,562	29,353	304,209	\$ 0.0611	\$ 0.0550	\$ 1,793	\$ 16,731	
GT-15-LC	290	Low	Controlled	173,425	15,261	158,163	\$ 0.0611	\$ 0.0550	\$ 932	\$ 8,699	
GT-15-HU	1,789	High	Uncontrolled	1,058,821	93,176	965,645	\$ 0.0611	\$ 0.0550	\$ 5,693	\$ 53,110	
GT-15-LU	1,677	Low	Uncontrolled	1,024,002	90,112	933,890	\$ 0.0611	\$ 0.0550	\$ 5,506	\$ 51,364	
GT-30-HC	60	High	Controlled	216,386	19,042	197,344	\$ 0.0500	\$ 0.0450	\$ 952	\$ 8,880	
GT-30-LC	13	Low	Controlled	67,577	5,947	61,630	\$ 0.0500	\$ 0.0450	\$ 297	\$ 2,773	
GT-30-HU	235	High	Uncontrolled	808,027	71,106	736,920	\$ 0.0500	\$ 0.0450	\$ 3,555	\$ 33,161	
GT-30-LU	51	Low	Uncontrolled	183,457	16,144	167,313	\$ 0.0500	\$ 0.0450	\$ 807	\$ 7,529	
GT-70-H	100	High	n/a	664,374	58,465	605,909	\$ 0.0500	\$ 0.0450	\$ 2,923	\$ 27,266	
GT-70-L	16	Low	n/a	112,422	9,893	102,529	\$ 0.0500	\$ 0.0450	\$ 495	\$ 4,614	
GT-150-H	28	High	n/a	426,288	37,513	388,774	\$ 0.0500	\$ 0.0450	\$ 1,876	\$ 17,495	
GT-150-L	3	Low	n/a	77,110	6,786	70,325	\$ 0.0500	\$ 0.0450	\$ 339	\$ 3,165	
TT-15-HC	2,173	High	Controlled	608,052	53,509	554,543	\$ 0.0611	\$ 0.0550	\$ 3,269	\$ 30,500	
TT-15-LC	148	Low	Controlled	69,047	6,076	62,971	\$ 0.0611	\$ 0.0550	\$ 371	\$ 3,463	
TT-15-HU	966	High	Uncontrolled	264,214	23,251	240,963	\$ 0.0611	\$ 0.0550	\$ 1,421	\$ 13,253	
TT-15-LU	213	Low	Uncontrolled	54,035	4,755	49,280	\$ 0.0611	\$ 0.0550	\$ 291	\$ 2,710	
TT-30-HC	51	High	Controlled	88,307	7,771	80,536	\$ 0.0500	\$ 0.0450	\$ 389	\$ 3,624	
TT-30-LC	9	Low	Controlled	13,329	1,173	12,156	\$ 0.0500	\$ 0.0450	\$ 59	\$ 547	
TT-30-HU	53	High	Uncontrolled	95,197	8,377	86,820	\$ 0.0500	\$ 0.0450	\$ 419	\$ 3,907	
TT-30-LU	17	Low	Uncontrolled	22,739	2,001	20,738	\$ 0.0500	\$ 0.0450	\$ 100	\$ 933	
TT-70-H	36	High	n/a	300,512	26,445	274,067	\$ 0.0500	\$ 0.0450	\$ 1,322	\$ 12,333	
TT-70-L	29	Low	n/a	91,936	8,090	83,846	\$ 0.0500	\$ 0.0450	\$ 405	\$ 3,773	
TT-150-H	10	High	n/a	117,650	10,353	107,297	\$ 0.0500	\$ 0.0450	\$ 518	\$ 4,828	
TT-150-L	2	Low	n/a	50,796	4,470	46,326	\$ 0.0500	\$ 0.0450	\$ 224	\$ 2,085	
DT-15-HC	11	High	Controlled	13,015	1,145	11,869	\$ 0.0611	\$ 0.0550	\$ 70	\$ 653	
DT-15-LC	4	Low	Controlled	14,676	1,291	13,385	\$ 0.0611	\$ 0.0550	\$ 79	\$ 736	
DT-15-HU	11	High	Uncontrolled	21,090	1,856	19,234	\$ 0.0611	\$ 0.0550	\$ 113	\$ 1,058	
DT-15-LU	11	Low	Uncontrolled	67,063	5,902	61,162	\$ 0.0611	\$ 0.0550	\$ 361	\$ 3,364	
DT-30-HC	25	High	Controlled	152,859	13,452	139,408	\$ 0.0500	\$ 0.0450	\$ 673	\$ 6,273	
DT-30-LC	9	Low	Controlled	56,167	4,943	51,224	\$ 0.0500	\$ 0.0450	\$ 247	\$ 2,305	
DT-30-HU	29	High	Uncontrolled	175,007	15,401	159,606	\$ 0.0500	\$ 0.0450	\$ 770	\$ 7,182	
DT-30-LU	18	Low	Uncontrolled	134,945	11,875	123,070	\$ 0.0500	\$ 0.0450	\$ 594	\$ 5,538	
DT-70-H	119	High	n/a	1,417,757	124,763	1,292,994	\$ 0.0500	\$ 0.0450	\$ 6,238	\$ 58,185	
DT-70-L	149	Low	n/a	1,969,972	173,358	1,796,615	\$ 0.0500	\$ 0.0450	\$ 8,668	\$ 80,848	
DT-150-H	13	High	n/a	303,340	26,694	276,647	\$ 0.0500	\$ 0.0450	\$ 1,335	\$ 12,449	
DT-150-L	34	Low	n/a	853,233	75,085	778,149	\$ 0.0500	\$ 0.0450	\$ 3,754	\$ 35,017	
				20,584,460	1,811,432	18,773,027			\$ 112,966	\$ 1,053,810	

Table 12 Standard contract and low fixed charge (LFC) off peak

Standard contract and low fixed charge (LFC) non time of use (anytime)				31-Mar-17			31-Mar-19			
				Quantity (Q_{t-2})			Price (P_t)		Notional Revenue ($Q_{t-2} \times P_t$)	
pricing code	no. of ICPs	density	load	t-2	t-2	t-2	\$ per kWh		\$	\$
				Billed	not applied	Billed PPD	\$ per kWh	(net of ppd)		
RN-LFC-HC	642	High	Controlled	1,312,447	115,495	1,196,951	\$ 0.1294	\$ 0.1165	\$ 14,945	\$ 139,445
RN-LFC-LC	161	Low	Controlled	322,503	28,380	294,123	\$ 0.1605	\$ 0.1445	\$ 4,555	\$ 42,501
RN-LFC-HU	94	High	Uncontrolled	144,904	12,752	132,153	\$ 0.1551	\$ 0.1396	\$ 1,978	\$ 18,449
RN-LFC-LU	37	Low	Uncontrolled	68,956	6,068	62,888	\$ 0.1862	\$ 0.1676	\$ 1,130	\$ 10,540
RN-STD-HC	416	High	Controlled	2,222,421	195,573	2,026,848	\$ 0.1003	\$ 0.0903	\$ 19,616	\$ 183,024
RN-STD-LC	132	Low	Controlled	746,564	65,698	680,866	\$ 0.1003	\$ 0.0903	\$ 6,590	\$ 61,482
RN-STD-HU	34	High	Uncontrolled	185,525	16,326	169,199	\$ 0.1260	\$ 0.1134	\$ 2,057	\$ 19,187
RN-STD-LU	10	Low	Uncontrolled	57,147	5,029	52,119	\$ 0.1260	\$ 0.1134	\$ 634	\$ 5,910
GN-15-HC	132	High	Controlled	345,710	30,423	315,288	\$ 0.0988	\$ 0.0889	\$ 3,006	\$ 28,029
GN-15-LC	63	Low	Controlled	171,963	15,133	156,830	\$ 0.0988	\$ 0.0889	\$ 1,495	\$ 13,942
GN-15-HU	390	High	Uncontrolled	790,016	69,521	720,495	\$ 0.1191	\$ 0.1072	\$ 8,280	\$ 77,237
GN-15-LU	265	Low	Uncontrolled	388,800	34,214	354,585	\$ 0.1191	\$ 0.1072	\$ 4,075	\$ 38,012
GN-30-HC	11	High	Controlled	216,943	19,091	197,852	\$ 0.0947	\$ 0.0852	\$ 1,808	\$ 16,857
GN-30-LC	4	Low	Controlled	97,366	8,568	88,798	\$ 0.0947	\$ 0.0852	\$ 811	\$ 7,566
GN-30-HU	51	High	Uncontrolled	658,116	57,914	600,202	\$ 0.1015	\$ 0.0914	\$ 5,878	\$ 54,858
GN-30-LU	14	Low	Uncontrolled	234,917	20,673	214,245	\$ 0.1015	\$ 0.0914	\$ 2,098	\$ 19,582
GN-70-H	41	High	n/a	1,311,469	115,409	1,196,059	\$ 0.0865	\$ 0.0779	\$ 9,983	\$ 93,173
GN-70-L	2	Low	n/a	154,559	13,601	140,958	\$ 0.0865	\$ 0.0779	\$ 1,176	\$ 10,981
GN-150-H	5	High	n/a	383,965	33,789	350,176	\$ 0.0768	\$ 0.0691	\$ 2,595	\$ 24,197
GN-150-L	0	Low	n/a	0	0	0	\$ 0.0768	\$ 0.0691	\$ -	\$ -
TN-15-HC	157	High	Controlled	202,691	17,837	184,854	\$ 0.0988	\$ 0.0889	\$ 1,762	\$ 16,434
TN-15-LC	18	Low	Controlled	25,416	2,237	23,180	\$ 0.0988	\$ 0.0889	\$ 221	\$ 2,061
TN-15-HU	42	High	Uncontrolled	75,641	6,656	68,985	\$ 0.1191	\$ 0.1072	\$ 793	\$ 7,395
TN-15-LU	12	Low	Uncontrolled	14,051	1,236	12,814	\$ 0.1191	\$ 0.1072	\$ 147	\$ 1,374
TN-30-HC	3	High	Controlled	16,871	1,485	15,386	\$ 0.0947	\$ 0.0852	\$ 141	\$ 1,311
TN-30-LC	0	Low	Controlled	0	0	0	\$ 0.0947	\$ 0.0852	\$ -	\$ -
TN-30-HU	3	High	Uncontrolled	17,645	1,553	16,093	\$ 0.1015	\$ 0.0914	\$ 158	\$ 1,471
TN-30-LU	0	Low	Uncontrolled	0	0	0	\$ 0.1015	\$ 0.0914	\$ -	\$ -
TN-70-H	7	High	n/a	168,652	14,841	153,811	\$ 0.0865	\$ 0.0779	\$ 1,284	\$ 11,982
TN-70-L	5	Low	n/a	44,031	3,875	40,156	\$ 0.0865	\$ 0.0779	\$ 335	\$ 3,128
TN-150-H	0	High	n/a	0	0	0	\$ 0.0768	\$ 0.0691	\$ -	\$ -
TN-150-L	0	Low	n/a	0	0	0	\$ 0.0768	\$ 0.0691	\$ -	\$ -
DN-15-HC	2	High	Controlled	18,928	1,666	17,263	\$ 0.0988	\$ 0.0889	\$ 165	\$ 1,535
DN-15-LC	1	Low	Controlled	8,513	749	7,764	\$ 0.0988	\$ 0.0889	\$ 74	\$ 690
DN-15-HU	0	High	Uncontrolled	0	0	0	\$ 0.1191	\$ 0.1072	\$ -	\$ -
DN-15-LU	0	Low	Uncontrolled	0	0	0	\$ 0.1191	\$ 0.1072	\$ -	\$ -
DN-30-HC	0	High	Controlled	0	0	0	\$ 0.0947	\$ 0.0852	\$ -	\$ -
DN-30-LC	2	Low	Controlled	50,504	4,444	46,060	\$ 0.0947	\$ 0.0852	\$ 421	\$ 3,924
DN-30-HU	0	High	Uncontrolled	0	0	0	\$ 0.1015	\$ 0.0914	\$ -	\$ -
DN-30-LU	0	Low	Uncontrolled	0	0	0	\$ 0.1015	\$ 0.0914	\$ -	\$ -
DN-70-H	7	High	n/a	228,848	20,139	208,709	\$ 0.0865	\$ 0.0779	\$ 1,742	\$ 16,258
DN-70-L	2	Low	n/a	127,571	11,226	116,345	\$ 0.0865	\$ 0.0779	\$ 971	\$ 9,063
DN-150-H	0	High	n/a	0	0	0	\$ 0.0768	\$ 0.0691	\$ -	\$ -
DN-150-L	3	Low	n/a	289,374	25,465	263,909	\$ 0.0768	\$ 0.0691	\$ 1,956	\$ 18,236
				11,103,031	977,066	10,125,964			\$ 102,879	\$ 959,834

Table 13 Standard contract and low fixed charge (LFC) non time of use (anytime)

Metering fees										
31-Mar-17					31-Mar-19					
pricing code	Quantity (Q _{t-2})				Price (P _t)			Notional Revenue (Q _{t-2} ×P _t)		
	Billed	PPD not applied	PPD applied		Daily (\$/day)	Daily (\$/day distribution)	Daily (\$/day net of PPD)	PPD not applied	PPD applied	total
M1T	14,930	2,717,260	239,119	2,478,141	\$ 0.2667	\$ 0.1600	\$ 0.1440	\$ 38,259	\$ 356,852	\$ 395,111
M3T	5,500	1,001,000	88,088	912,912	\$ 0.3556	\$ 0.2134	\$ 0.1921	\$ 18,798	\$ 175,370	\$ 194,168
MN	2,740	498,680	43,884	454,796	\$ 0.2667	\$ 0.1600	\$ 0.1440	\$ 7,021	\$ 65,491	\$ 72,512
	23,170	4,216,940	371,091	3,845,849				\$ 64,078	\$ 597,713	\$ 661,792

Table 14 Metering fees

Dedicated transformer charge																
Dedicated transformers (No.)	31-Mar-17			31-Mar-18						30-Sep-18						
	Billed	PPD not applied	PPD applied	Price (P _{t-1})		Notional Revenue (Q _{t-2} ×P _{t-1})			Price (P _t)			Billed Quantity Notional Revenue (Q _{t-2} ×P _t)				
				monthly	yearly	net of PPD	PPD not applied	PPD applied	total	monthly	six months	net of PPD	PPD not applied	PPD applied	total	
5	2,970	261	2,709	\$ 27.14	\$ 325.68	\$ 293.11	\$ 85,002	\$ 794,035	\$ 879,037	\$ 27.82	\$ 166.92	\$ 150.23	\$ 43,566	\$ 406,973	\$ 450,539	
10	977	86	891	\$ 45.04	\$ 540.48	\$ 486.43	\$ 46,481	\$ 433,409	\$ 479,890	\$ 46.17	\$ 277.02	\$ 249.32	\$ 23,824	\$ 222,144	\$ 245,968	
15	1,716	151	1,565	\$ 61.70	\$ 740.40	\$ 666.36	\$ 111,800	\$ 1,042,853	\$ 1,154,654	\$ 63.24	\$ 379.44	\$ 341.50	\$ 57,295	\$ 534,448	\$ 591,743	
30	197	17	180	\$ 81.72	\$ 980.64	\$ 882.58	\$ 16,671	\$ 158,864	\$ 175,535	\$ 83.76	\$ 502.56	\$ 452.30	\$ 8,544	\$ 81,414	\$ 89,958	
50	192	17	175	\$ 90.56	\$ 1,086.72	\$ 978.05	\$ 18,474	\$ 171,159	\$ 189,633	\$ 92.82	\$ 556.92	\$ 501.23	\$ 9,468	\$ 87,715	\$ 97,183	
75	105	9	96	\$ 110.49	\$ 1,325.88	\$ 1,193.29	\$ 11,933	\$ 114,556	\$ 126,489	\$ 113.25	\$ 679.50	\$ 611.55	\$ 6,116	\$ 58,709	\$ 64,824	
100	53	5	48	\$ 123.49	\$ 1,481.88	\$ 1,333.69	\$ 7,409	\$ 64,017	\$ 71,427	\$ 126.58	\$ 759.48	\$ 683.53	\$ 3,797	\$ 32,809	\$ 36,607	
200	21	2	19	\$ 212.81	\$ 2,553.72	\$ 2,298.35	\$ 5,107	\$ 43,669	\$ 48,776	\$ 218.13	\$ 1,308.78	\$ 1,177.90	\$ 2,618	\$ 22,380	\$ 24,998	
300	11	1	10	\$ 256.85	\$ 3,082.20	\$ 2,773.98	\$ 3,082	\$ 27,740	\$ 30,822	\$ 263.27	\$ 1,579.62	\$ 1,421.66	\$ 1,580	\$ 14,217	\$ 15,796	
500	17	1	16	\$ 300.73	\$ 3,608.76	\$ 3,247.88	\$ 3,609	\$ 51,966	\$ 55,575	\$ 308.25	\$ 1,849.50	\$ 1,664.55	\$ 1,850	\$ 26,633	\$ 28,482	
750	7	1	6	\$ 361.01	\$ 4,332.12	\$ 3,898.91	\$ 4,332	\$ 23,393	\$ 27,726	\$ 370.04	\$ 2,220.24	\$ 1,998.22	\$ 2,220	\$ 11,989	\$ 14,210	
1000	1	0	1	\$ 407.02	\$ 4,884.24	\$ 4,395.82	\$ -	\$ 4,396	\$ 4,396	\$ 417.20	\$ 2,503.20	\$ 2,252.88	\$ -	\$ 2,253	\$ 2,253	
1250	0	0	0	\$ 430.02	\$ 5,160.24	\$ 4,644.22	\$ -	\$ -	\$ -	\$ 440.77	\$ 2,644.62	\$ 2,380.16	\$ -	\$ -	\$ -	
1500	0	0	0	\$ 484.11	\$ 5,809.32	\$ 5,228.39	\$ -	\$ -	\$ -	\$ 496.21	\$ 2,977.26	\$ 2,679.53	\$ -	\$ -	\$ -	
Dedicated Transformer Totals	6,267	551	5,716				\$ 313,902	\$ 2,930,057	\$ 3,243,960				\$ 160,876	\$ 1,501,684	\$ 1,662,560	

Table 15 Dedicated transformer charge

Relay Fees															
Relay fees (No.)	31-Mar-17			31-Mar-18						30-Sep-18					
	Billed	PPD not applied	PPD applied	Price (P _{t-1})		Notional Revenue (Q _{t-2} ×P _{t-1})			Price (P _t)			Notional Revenue (Q _{t-2} ×P _t)			
				monthly	yearly	net of PPD	PPD not applied	PPD applied	total	monthly	six months	net of PPD	PPD not applied	PPD applied	total
Relay fees (No.)	16,976	1,494	15,482	\$ 1.79	\$ 21.48	\$ 19.33	\$ 32,091	\$ 299,267	\$ 331,358	\$ 1.83	\$ 10.98	\$ 9.88	\$ 16,404	\$ 152,962	\$ 169,366
Relay fees Totals	16,976	1,494	15,482				\$ 32,091	\$ 299,267	\$ 331,358				\$ 16,404	\$ 152,962	\$ 169,366

Table 16 Relay fees

Streetlight charges									
	31-Mar-17			31-Mar-18			31-Mar-19		
	Quantity (Q _{t-2})	Price (P _{t-1})		Notional Revenue (Q _{t-2} ×P _{t-1})	Price (P _t)		Notional Revenue (Q _{t-2} ×P _t)		
		gross	net PPD		gross	net PPD			
<u>Assets (value)</u>				\$	541,168			\$	554,697
<u>Mounting Service (No.)</u>									
Taupo	0	59.00	53.10	\$	-	60.48	54.43	\$	-
Ruapehu	959	61.46	55.31	\$	53,042	63.00	56.70	\$	54,375
Waitomo	553	49.16	44.24	\$	24,465	50.39	45.35	\$	25,079
Otorohanga	313	61.46	55.31	\$	17,312	63.00	56.70	\$	17,747
<u>Network - Streetlights (kW)</u>									
Taupo	76.50	116.48	104.83	\$	8,019	119.39	107.45	\$	8,220
Ruapehu	165	68.65	61.79	\$	10,195	70.37	63.33	\$	10,449
Waitomo	111	118.16	106.34	\$	11,804	121.11	109.00	\$	12,099
Otorohanga	65.85	118.16	106.34	\$	7,002	121.11	109.00	\$	7,178
Under Veranda kW	10.67	79.24	71.32	\$	761	81.22	73.10	\$	780
<u>Load Plant Operation (Load Shifting) (No.)</u>									
Taupo	1,460	3.06	2.75	\$	4,015	3.14	2.83	\$	4,132
Ruapehu	2,190	3.06	2.75	\$	6,023	3.14	2.83	\$	6,198
Waitomo	1,460	3.06	2.75	\$	4,015	3.14	2.83	\$	4,132
Otorohanga	730	3.06	2.75	\$	2,008	3.14	2.83	\$	2,066
Private light residual	400	3.76	3.38	\$	1,352	3.85	3.47	\$	1,388
Streetlight Charges Total				\$	691,181			\$	708,540

Table 17 Streetlight charges

De-energisation and re-energisation						
		31-Mar-17	31-Mar-18		31-Mar-19	
		Quantity (Q _{t-2})	Price (P _{t-1}) Per request	Notional Revenue (Q _{t-2} ×P _{t-1})	Price (P _t) Per request	Notional Revenue (Q _{t-2} ×P _t)
<u>Urban</u>						
1A	Disconnection/Reconnection: requested by 2:00pm and executed next working day by 4:30pm	644	46.58	\$ 29,998	46.58	\$ 29,998
2A	Reconnection: requested after 2:00pm executed next working day by 4:30pm	336	52.40	\$ 17,606	52.40	\$ 17,606
3A	Disconnection/Reconnection: Requested for same working day before 3:00pm and executed that day	361	69.86	\$ 25,219	69.86	\$ 25,219
4A	Reconnection: from 3:00pm onwards. on any given weekday, weekend or public holiday before 10pm	164	116.44	\$ 19,096	116.44	\$ 19,096
5A	Reconnection: from 10:00pm requested for completion after 10pm on any given day including public holidays	0	232.88	\$ -	232.88	\$ -
7A	Late cancellation fee: Charged if payment is not received until after 2.00pm the day before disconnection or the site has been processed for disconnection (includes the day of disconnection)	47	36.23	\$ 1,703	36.23	\$ 1,703
<u>Rural</u>						
1B	Disconnection/Reconnection: requested by 2:00pm and executed next working day by 4:30pm	244	58.22	\$ 14,206	58.22	\$ 14,206
2B	Reconnection: requested after 2:00pm executed next working day by 4:30pm	84	64.05	\$ 5,380	64.05	\$ 5,380
3B	Disconnection/Reconnection: Requested for same working day before 3:00pm and executed that day	91	81.51	\$ 7,417	81.51	\$ 7,417
4B	Reconnection: from 3:00pm onwards. on any given weekday, weekend or public holiday before 10pm	37	174.66	\$ 6,462	174.66	\$ 6,462
5B	Reconnection: from 10:00pm requested for completion after 10pm on any given day including public holidays	0	291.09	\$ -	291.09	\$ -
7B	Late cancellation fee: Charged if payment is not received until after 2.00pm the day before disconnection or the site has been processed for disconnection (includes the day of disconnection)	0	47.87	\$ -	47.87	\$ -
<u>Remote</u>						
1C	Disconnection/Reconnection: requested by 2:00pm and executed next working day by 4:30pm	155	174.66	\$ 27,072	174.66	\$ 27,072
2C	Reconnection: requested after 2:00pm executed next working day by 4:30pm	47	203.77	\$ 9,577	203.77	\$ 9,577
3C	Disconnection/Reconnection: Requested for same working day before 3:00pm and executed that day	69	261.99	\$ 18,077	261.99	\$ 18,077
4C	Reconnection: from 3:00pm onwards. on any given weekday, weekend or public holiday before 10pm	20	349.31	\$ 6,986	349.31	\$ 6,986
5C	Reconnection: from 10:00pm requested for completion after 10pm on any given day including public holidays	0	523.97	\$ -	523.97	\$ -
7C	Late cancellation fee: Charged if payment is not received until after 2.00pm the day before disconnection or the site has been processed for disconnection (includes the day of disconnection)	0	164.31	\$ -	164.31	\$ -
De-Energisation and Re-Energisation Totals		2,299		\$ 188,799		\$ 188,799

Table 18 De-energisation and re-energisation

Summary Pass-through and Recoverable Revenue and Costs 2019	
<u>Pass-through and Recoverable Revenue</u>	
Standard Customers kW Load	\$2,479,063
Standard Customers TOU	\$2,132,383
Major Customers	\$2,218,618
Generation	\$ 47,086
Streetlights	\$ 31,120
Total Pass-through and Recoverable Revenue	<u>\$6,908,270</u>
<u>Pass-through and Recoverable Costs</u>	
<u>Recoverable Costs</u>	
Transpower	-\$5,411,018
Avoided Cost of Transmission	-\$1,673,112
Capex Wash-up Adjustment	\$ 290,936
Quality Incentive Adjustment	\$ 350,808
Total Recoverable Costs	<u>-\$6,442,387</u>
<u>Pass-through Costs</u>	
Rates on system fixed assets	-\$ 321,433
Commerce Act levies	-\$ 84,412
Electricity Authority levies	-\$ 62,226
Utilities Disputes (formerly EGCC) levies	-\$ 23,305
Total Pass-through Costs	<u>-\$ 491,376</u>
Total Pass-through and Recoverable Costs	<u>-\$6,933,763</u>
Total Pass-through and Recoverable Revenue Less	
Total Pass-through and Recoverable Costs	<u>-\$ 25,493</u>

Table 19 Summary pass-through and recoverable revenue and costs 2019

Pass-through and recoverable revenue								
	30-Sep-18				30-Sep-18			
	Quantity (Q _i)			Price (P _i)		Revenue (Q _i ×P _i)		
<u>Standard User and Low Fixed Charge (LFC) Plan Pass-through and Recoverable Revenue (kW)</u>	Billed	PPD not applied	PPD applied	monthly	six months	net of PPD		
Hangatiki	27,304	3,440	23,864	\$ 6.86	\$ 41.16	\$ 37.04	\$	1,025,608
Whakamaru	9,476	1,194	8,282	\$ 0.70	\$ 4.20	\$ 3.78	\$	36,321
Ohakune	6,416	808	5,608	\$ 7.19	\$ 43.14	\$ 38.83	\$	252,593
Ongarue	12,057	1,519	10,538	\$ 9.31	\$ 55.86	\$ 50.27	\$	614,639
National Park	3,279	413	2,866	\$ 12.23	\$ 73.38	\$ 66.04	\$	219,582
Tokaanu	10,528	1,327	9,201	\$ 5.73	\$ 34.38	\$ 30.94	\$	330,320
Standard/LFC Pass-through and Recoverable Revenue Total	69,060	8,701	60,359					\$ 2,479,063
<u>Standard User and Low Fixed Charge (LFC) Plan Pass-through and Recoverable Revenue (kWh)</u>								
Anytime	9,857,784	1,242,081	8,615,703	\$ 0.0239		\$ 0.02151	\$	215,010
Peak	22,446,048	2,828,202	19,617,846	\$ 0.0622		\$ 0.05598	\$	1,274,121
Shoulder	42,897,416	5,405,074	37,492,341	\$ 0.0111		\$ 0.00999	\$	434,545
Off Peak	20,603,167	2,595,999	18,007,168	\$ 0.0111		\$ 0.00999	\$	208,707
Standard/LFC Pass-through and Recoverable Revenue Total	95,804,414	12,071,356	83,733,058					\$ 2,132,383
31-Mar-19								
<u>Major Customer Pass-through and Recoverable Revenue</u>								
	Quantity (Q _i)			Price (P _i)		Revenue (Q _i ×P _i)		
	Billed			monthly	net of PPD			
Transmission Connection (kVA)								
Hangatiki	28,408			\$ 6.93	\$ 6.24	\$		177,265
Whakamaru	0			\$ -	\$ -	\$		-
Ohakune	2,887			\$ 19.32	\$ 17.39	\$		50,203
Ongarue	1,060			\$ 25.42	\$ 22.88	\$		24,249
National Park	3,173			\$ 45.48	\$ 40.93	\$		129,872
Tokaanu	1,167			\$ 6.97	\$ 6.27	\$		7,315
Transmission Connection Totals	36,694							\$ 388,904
Transmission Individual Peak Demand (kVA)								
Hangatiki	198			\$ 75.38	\$ 67.84	\$		13,432
Whakamaru	410			\$ 8.36	\$ 7.52	\$		3,085
Ohakune	51			\$ 67.01	\$ 60.31	\$		3,063
Ongarue	300			\$ 86.37	\$ 77.73	\$		23,319
National Park	0			\$ 101.31	\$ 91.18	\$		-
Tokaanu	0			\$ 61.77	\$ 55.59	\$		-
Transmission Connection Totals	959							\$ 42,899
Transmission Co-Incidental Demand (RCPD) (kVA)								
Regional Coincident Peak Demand (RCPD)	15,705			\$ 126.41	\$ 113.77	\$		1,786,815
Transmission Co-incidental demand (RCPD) Totals	15,705							\$ 1,786,815
Major Customer Pass-through and Recoverable Revenue Total								\$ 2,218,618
<u>Generators</u>								
Transpower Injection								
National Park	1			\$ -		\$		-
Ongarue	1			\$ 37,669		\$		37,669
Tokaanu	1			\$ 9,417		\$		9,417
Generation Total								\$ 47,086
<u>Streetlights</u>								
Transmission Demand kW								
Taupo	76.50			\$ 45.80	\$ 41.22	\$		3,153
Ruapehu	165			\$ 66.74	\$ 60.06	\$		9,910
Waitomo	111			\$ 56.67	\$ 51.00	\$		5,661
Otorohanga	65.85			\$ 56.67	\$ 51.00	\$		3,359
Under Veranda kW	10.67			\$ 77.92	\$ 70.13	\$		748
Transmission Connection kW								
Taupo	76.50			\$ 33.71	\$ 30.34	\$		2,321
Ruapehu	165			\$ 14.78	\$ 13.30	\$		2,195
Waitomo	111			\$ 23.70	\$ 21.33	\$		2,368
Otorohanga	65.85			\$ 23.70	\$ 21.33	\$		1,405
Streetlights Total								\$ 31,120
Pass-through and Recoverable Revenue Total								\$ 6,908,270

Table 20 Pass-through and recoverable revenue

Appendix D Transmission Assets, Transactions and Restructuring of Prices (Clauses 11.2(d) and 11.6 – 11.8)

Clauses 11.2(d)(i), 11.7 and 11.8 – The Lines Company Limited did undertake a Restructure of its Prices that first applied during the current or preceding Assessment Period and therefore clauses 8.7 - 8.10 did apply during the Assessment Period. This Appendix discusses the restructures that occurred and the methodologies that have been applied.

Introduction

The Lines Company Limited (TLC) has changed business rules for measuring kW load quantities between the 2019 Assessment Period (t) and the 2017 Assessment Period (t-2). TLC has considered and sought advice from both the Commerce Commission and external industry experts of the approaches being applied to demonstrate compliance with the 2018 DPP price-path in relation to the business rule adjustments that led to price restructures.

TLC considers that the methodologies used to determine the quantities that correspond to each restructured price, described below, are consistent with the requirements of, and the intention behind, the DPP Determination and the wider Part 4 regime. Accordingly, TLC considers that this compliance statement complies with the Electricity Distribution Services Default Price-Quality Path Determination 2015.

Background

TLC's Pricing Methodology (a version of demand charging) differs in material aspects to other approaches within the industry. To support its methodology, TLC has changed its metering stock from legacy/standard meters to Time-of-Use (TOU)/Advanced meters (half hour and ten-minute intervals). Where these changes lead to price restructures, TLC has applied methodologies to determine demonstrably reasonable estimates of quantities that practicably correspond to each restructured price.

TLC has identified four changes to business rules that fall under the price restructure provisions of the DPP Determination.

Definitions from DPP Determination and IM Determination

Restructure of Prices means any change in the allocation of connections to Consumer Groups by a Non-exempt EDB, the introduction of a new Consumer Group, or any change in Prices, but excludes:

(a) a change to the value of a Price applicable to an existing Consumer Group; or

(b) the movement of connections between existing Consumer Groups at the request of the Consumer or retailer

Consumer Group means a category of Consumer used by a Non-exempt EDB for the purpose of setting Prices

Prices means-

(a) individual tariffs, fees or charges; or

(b) individual components thereof,

posted in nominal terms exclusive of GST for the supply of an electricity distribution service, and must include a posted discount if a discount is taken up by consumers.

Where a price restructure occurs, clauses 8.7-8.10 of the DPP Determination apply.

Clause 8.8 provides for when the quantities determined in accordance with clause 8.9 should be calculated.

Clause 8.9 provides for circumstances where a restructure of prices combines two or more consumer groups into a single consumer group and where a restructure of prices separates a consumer group into two or more consumer groups.

Clause 8.10 is relevant for the price restructures listed below as the circumstances anticipated by clause 8.9 do not reflect the changes to business rules made by TLC between 2015 and 2017. Clause 8.10 states that if:

there are no Quantities for the Assessment Period two years prior that practicably correspond to the restructured Prices, the Non-exempt EDB must derive a demonstrably reasonable estimate of the Quantities using any reasonable methodology, provided the Non-exempt EDB:

(a) does not use a forecast Quantity as the estimate of a Quantity;

(b) uses any available relevant Quantity information in the Assessment Period two years prior;

(c) considers any other relevant information reasonably available; and

(d) uses a substantially similar methodology for determining Quantities in each Assessment Period for which Quantities are determined under this clause.

Below we describe how our methodologies have given effect to these requirements.

Price restructure 1: kW load measured using standard meter (t-2) and TOU half hour interval meter (t-1) and (t)

This change in business rules (associated with the meter change) is a price restructure because the change reflects a reallocation of connections between consumer groups, where a consumer group is defined with reference to different metering types within a pricing class where those metering types influence how kW quantities are measured. In particular, in year t-2 each consumer was charged on the basis of a profile while in year t-1 and year t, each consumer was charged on the basis of their TOU half hour interval meter data. The meter change has, therefore reallocated connections between consumer categories for the purpose of setting prices.

We note that these consumers were not subject to the opt back (to a profile) process because they received a lower quantity and lower total charge from the TOU measurement.

TOU-based kW load data is not available for t-2 (as TOU half hour interval meters had not been installed at that time). Therefore, it was necessary to estimate Quantities in t-2 that correspond to the restructured price (clause 8.10). The methodology used for determining these estimated

quantities was to calculate, for each individual connection, the percentage difference between the TOU and profile quantities for year t-1 and year t and apply that percentage difference to the profile quantities for each individual connection for year t-2 (as profile Quantities are available for these consumers in year t-2).

TLC considers that this is the most demonstrably reasonable estimate of the t-2 quantities that correspond to the t-1 and t prices.

The table in Appendix C – Price and Quantity Schedules, Standard User and Low Fixed Charge (LFC) Plan kW Load Charge, details the impact of the price restructure and a summary is presented in the table below. This summary shows the difference from the billed quantities in t-2 to the estimates of quantities for t-2 which best correspond to prices in year t-1 and year t.

Charge	Billed Quantities t-2 (2017)	Price Restructure 1	Quantity post-Price Restructure 1	Allowable Notional Revenue Billed Quantities	Allowable Notional Revenue Price Restructure 1	Allowable Notional Revenue post-Price Restructure 1
kW load variable	76,939 kW	-5 kW	76,934 kW	\$17,659,927	-\$782	\$17,659,145

Allowable Notional Revenue (t-2) quantities × (t-1) prices

Charge	Billed Quantities t-2 (2017)	Price Restructure 1	Quantity post-Price Restructure 1	Notional Revenue Billed Quantities	Notional Revenue Price Restructure 1	Notional Revenue post-Price Restructure
kW load variable	76,939 kW	-262 kW	76,677 kW	\$9,053,462	-\$30,410	\$9,023,052

Notional Revenue (t-2) quantities × (t) prices

Price restructure 2: kW measured using TOU half hour interval meter (t-2) and demand ten-minute interval meter (t)

This restructure of prices applies to consumers where their quantities in year t-2 were determined from half-hour interval data and were determined from ten-minute interval data in year t. This reflects the metering types that were in place in these years – half-hour TOU meters in t-2 and ten-minute interval meters in t. Ten-minute interval data was not available in t-2 as the relevant meters with the required firmware were not in place. As such, this change in business rules is a price restructure because it reflects a reallocation of connections between consumer groups, where a consumer group is defined with reference to different metering types within a pricing class, where those metering types influence how kW quantities are measured.

The methodology for determining the Quantities that apply to the restructured price is applying the aggregate percentage difference from t and t-1 between TOU half hour and ten-minute interval data to the billed quantities from t-2.

Charge	Billed Quantities t-2 (2017)	Price Restructure 2	Quantity post-Price Restructure 2	Allowable Notional Revenue Billed Quantities	Allowable Notional Revenue Price Restructure 2	Allowable Notional Revenue post-Price Restructure 2
kW load variable	76,939 kW	17 kW	76,956 kW	\$17,659,927	\$2,781	\$17,662,708

Allowable Notional Revenue (t-2) quantities × (t-1) prices

Charge	Billed Quantities t-2 (2017)	Price Restructure 2	Quantity post-Price Restructure 2	Notional Revenue Billed Quantities	Notional Revenue Price Restructure 2	Notional Revenue post-Price Restructure
kW load variable	76,939 kW	356 kW	77,295 kW	\$9,053,462	\$40,625	\$9,094,087

Notional Revenue (t-2) quantities × (t) prices

Price restructure 5: kW load measured using standard meter (t-2) and TOU ten-minute interval meter (t-1) and (t)

This change in business rules is a price restructure because the change reflects a reallocation of connections between consumer groups, where a consumer group is defined with reference to different metering types within a pricing class where those metering types influence how kW quantities are measured. In particular, in t-2 each consumer was charged on the basis of a profile while in t-1 and t, each consumer was charged on the basis of their TOU ten-minute interval data. The meter change has, therefore reallocated connections between consumer categories for the purpose of setting prices.

We note that these consumers were not subject to the opt back (to a profile) process because they received a lower quantity and lower total charge from the TOU measurement.

TOU-based kW load data is not available for t-2 (as TOU ten-minute interval meters had not been installed at that time). Therefore, it was necessary to estimate Quantities in t-2 that correspond to the restructured price (clause 8.10). The methodology used for determining these estimated quantities was to calculate, for each individual connection, the percentage difference between the TOU and profile quantities for t-1 and t and apply that percentage difference to the profile quantities for each individual connection for year t-2 (as profile Quantities are available for these consumers in year t-2).

TLC considers that this is the most demonstrably reasonable estimate of the t-2 quantities that correspond to the t-1 and t prices.

The table in Appendix C – Price and Quantity Schedules, Standard User and Low Fixed Charge (LFC) Plan kW Load Charge, details the impact of the price restructure and a summary is presented in the table below. This summary shows the difference from the billed quantities in t-2 to the estimates of quantities for t-2 which best correspond to prices in year t-1 and year t.

Charge	Billed Quantities t-2 (2017)	Price Restructure 5	Quantity post-Price Restructure 5	Allowable Notional Revenue Billed Quantities	Allowable Notional Revenue Price Restructure 5	Allowable Notional Revenue post-Price Restructure 5
kW load variable	76,939 kW	-3,064 kW	73,875 kW	\$17,659,927	-\$708,486	\$16,951,441

Allowable Notional Revenue (t-2) quantities × (t-1) prices

Charge	Billed Quantities t-2 (2017)	Price Restructure 5	Quantity post-Price Restructure 5	Notional Revenue Billed Quantities	Notional Revenue Price Restructure 5	Notional Revenue post-Price Restructure 5
kW load variable	76,939 kW	-4,465 kW	72,474 kW	\$9,053,462	-\$532,511	\$8,520,951

Notional Revenue (t-2) quantities × (t) prices

Price restructure 6: Temporary Accommodation Minimum for Ohakune kW threshold changed between t-2 and t

TLC calculates a kW load value that is a minimum for Temporary Accommodation customers that are priced on the profile either through the opt back process or because they have a standard meter. This value was 2.90 kW in Ohakune in t-2 and t-1 but changed to 2.60 kW in t. This is a restructure of prices.

The methodology for determining the Quantities that apply to the restructured price is to use the billed quantities from t-2, but reallocate these quantities to a different consumer group.

The tables in Appendix C – Price and Quantity Schedules, kW Load Charge, details the price restructure and summaries are presented in the tables below.

These summaries show the Movement of t-2 quantities between consumer groups.

Charge	Billed Quantities t-2 (2015)	Price Restructure 6	Quantity post-Price Restructure 6	Allowable Notional Revenue Billed Quantities	Allowable Notional Revenue Price Restructure 6	Allowable Notional Revenue post-Price Restructure 6
kW load variable	76,939 kW	-385 kW	76,554 kW	\$17,659,927	-\$78,626	\$17,581,301

Allowable Notional Revenue (t-2) quantities × (t-1) prices

Charge	Billed Quantities t-2 (2015)	Price Restructure 6	Quantity post-Price Restructure 6	Notional Revenue Billed Quantities	Notional Revenue Price Restructure 6	Notional Revenue post-Price Restructure 6
kW load variable	76,939 kW	-385 kW	76,554 kW	\$9,053,462	-\$40,292	\$9,013,170

Notional Revenue (t-2) quantities × (t) prices

Summary of price restructures

Price restructure	Charge	Billed Quantities t-2 (2017)	Price Restructure	Quantity post-Price Restructure	Allowable Notional Revenue Billed Quantities	Allowable Notional Revenue Price Restructure	Allowable Notional Revenue post-Price Restructure
1	kW load variable	76,939 kW	-5 kW	76,934 kW	\$17,659,927	-\$782	\$17,659,145
2			17 kW	76,956 kW		\$2,781	\$17,662,708
5			-3,064 kW	73,875 kW		-\$708,486	\$16,951,441
6			-385 kW	76,554 kW		-\$78,626	\$17,581,301
Totals:			-3,437 kW	73,502 kW		-\$785,113	\$16,874,814

Allowable Notional Revenue (t-2) quantities × (t-1) prices

Price restructure	Charge	Billed Quantities t-2 (2017)	Price Restructure	Quantity post-Price Restructure	Notional Revenue Billed Quantities	Notional Revenue Price Restructure	Notional Revenue post-Price Restructure
1	kW load variable	76,939 kW	-262 kW	76,677 kW	\$9,053,462	-\$30,410	\$9,023,052
2			356 kW	77,295 kW		\$40,625	\$9,094,087
5			-4,465 kW	72,474 kW		-\$532,511	\$8,520,951
6			-385 kW	76,554 kW		-\$40,292	\$9,013,170
Totals:			-4,756 kW	72,183 kW		-\$562,588	\$8,490,874

Notional Revenue (t-2) quantities × (t) prices

Reconciliation to Price-Quantity Schedules

Standard User and Low Fixed Charge (LFC) Plan kW Load Charge

	Billed Q t-2	Price restructure 1	Price restructure 2	Price restructure 5	Price restructure 6	Post-price restructures
Q t-1 ANR	76,939 kW	-5 kW	17 kW	-3,064 kW	-385 kW	73,502 kW
\$ t-1 ANR	\$17,659,927	-\$782	\$2,781	-\$708,486	-\$78,626	\$16,874,814

	Billed Q t-2	Price restructure 1	Price restructure 2	Price restructure 5	Price restructure 6	Post-price restructures
Q t NR	76,939 kW	-262 kW	356 kW	-4,465 kW	-385 kW	72,183 kW
\$ t NR	\$9,053,462	-\$30,410	\$40,625	-\$532,511	-\$40,292	\$8,490,874

Clause 11.2(d)(ii) – The Lines Company Limited did not receive a transfer of transmission assets from Transpower that became system fixed assets, or transferred system fixed assets to Transpower.

Clauses 11.2(d)(iii)-(iv) and 11.6 – The Lines Company Limited did not participate in an Amalgamation, a Merger or Major Transaction for the Assessment Period. Clauses 10.1 – 10.4 therefore did not apply for the Assessment Period.

Appendix E – Quality Standard Compliance and Incentive (Clause 11.5(c), (d) and (f))

Quality Standard Compliance Calculations

Electricity Distribution Services Default Price-Quality Path Determination 2015

Assessment Against the Quality Standards for the Assessment Period ending 31 March 2019

Reliability Limits and Boundary Values

SAIDI and SAIFI Limits	
SAIDI Limit <small>2015-2020 regulatory period</small>	234.182
SAIFI Limit <small>2015-2020 regulatory period</small>	3.467
SAIDI Unplanned Boundary Value <small>2015-2020 regulatory period</small>	10.967
SAIFI Unplanned Boundary Value <small>2015-2020 regulatory period</small>	0.144

Reliability Assessment Calculations (2019 Assessment Period)

SAIDI Assessed Values					
<i>Raw data</i>			<i>Adjusted data</i>		
SAIDI _B	Planned SAIDI	148.943	SAIDI _B	Planned SAIDI multiplied by 0.5	74.472
SAIDI _C	Unplanned SAIDI	240.089	SAIDI _C	Normalised unplanned SAIDI	211.076
			SAIDI _{Assess (B+C)}		285.548

SAIFI Assessed Values					
<i>Raw data</i>			<i>Adjusted data</i>		
SAIFI _B	Planned SAIFI	1.093	SAIFI _B	Planned SAIFI multiplied by 0.5	0.547
SAIFI _C	Unplanned SAIFI	3.890	SAIFI _C	Normalised unplanned SAIFI	3.859
			SAIFI _{Assess (B+C)}		4.406

Normalisation

Days exceeding SAIDI Boundary Value within the 2018/19 Assessment Dataset

Date	Pre-Normalised unplanned SAIDI	Normalised unplanned SAIDI
10-Apr-18	13.625	10.967
1-Jun-18	31.886	10.967
25-Nov-18	16.403	10.967

Days exceeding SAIFI Boundary Value within the 2018/19 Assessment Dataset

Date	Pre-Normalised unplanned SAIFI	Normalised unplanned SAIFI
8-Apr-18	0.158	0.144
20-Nov-18	0.161	0.144

Prior Period Assessed Values

Assessed SAIDI Value 2017/18

SAIDI _{2017/18}	243.335	The sum of daily SAIDI Values in the 1 April 2017 - 31 March 2018 Normalised Assessment Dataset
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Assessed SAIFI Value 2017/18

SAIFI _{2017/18}	3.747	The sum of daily SAIFI Values in the 1 April 2017 - 31 March 2018 Normalised Assessment Dataset
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Assessed SAIDI Value 2016/17

SAIDI _{2016/17}	251.944	The sum of daily SAIDI Values in the 1 April 2016 - 31 March 2017 Normalised Assessment Dataset
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Assessed SAIFI Value 2016/17

SAIFI _{2016/17}	3.386	The sum of daily SAIFI Values in the 1 April 2016 - 31 March 2017 Normalised Assessment Dataset
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Quality Incentive Calculations

Electricity Distribution Services Default Price-Quality Path Determination 2015

Quality Incentive Calculation for the Assessment Period ending 31 March 2019

Quality Incentive Adjustment (2019 Assessment Period)

Quality Incentive Adjustment		
Term	Description	Value \$
S_{SAIDI}	SAIDI incentive	(173,525)
S_{SAIFI}	SAIFI incentive	(173,525)
S_{TOTAL}	SAIDI incentive plus SAIFI incentive	(347,050)

SAIDI Incentive		
Term	Description	Value
$SAIDI_{Target}$	SAIDI target specified in DPP Determination	208.7747
$SAIDI_{Collar}$	SAIDI incentive range collar specified in DPP Determination	183.3679
$SAIDI_{Cap}$	SAIDI incentive range cap specified in DPP Determination	234.1815
$Starting\ price\ MAR$	Maximum allowable revenue for the 2015/16 year	\$34,705,000
$0.5 * REV_{RISK}$	Revenue at risk relating to SAIDI target (equal to 0.5% of MAR)	\$173,525
$SAIDI_{IR}$	SAIDI incentive rate per unit (equal to revenue at risk divided by Cap minus Target)	\$6,830
$SAIDI_{ASSESS}$	Assessed SAIDI value for purpose of incentive	234.182
S_{SAIDI}	SAIDI incentive adjustment (equal to incentive rate multiplied by SAIDI target minus Assessed SAIDI value)	(\$173,525)

SAIFI Incentive		
Term	Description	Value
$SAIFI_{Target}$	SAIFI target specified in DPP Determination	3.0707
$SAIFI_{Collar}$	SAIFI incentive range collar specified in DPP Determination	2.6748
$SAIFI_{Cap}$	SAIFI incentive range cap specified in DPP Determination	3.4667
$Starting\ price\ MAR$	Maximum allowable revenue for the 2015/16 year	\$34,705,000
$0.5 * REV_{RISK}$	Revenue at risk relating to SAIFI target (equal to 0.5% of MAR)	\$173,525
$SAIFI_{IR}$	SAIFI incentive rate per unit (equal to revenue at risk divided by Cap minus Target)	\$438,194
$SAIFI_{ASSESS}$	Assessed SAIFI value for purpose of incentive	3.467
S_{SAIFI}	SAIFI incentive adjustment (equal to incentive rate multiplied by SAIFI target minus Assessed SAIFI value)	(\$173,525)

Prior Period Quality Incentive Adjustments

2018 Assessment Period

Quality Incentive Adjustment		
Term	Description	Value \$
<i>S</i> SAIDI 2017/18	SAIDI incentive 2017/18	(173,525)
<i>S</i> SAIFI 2017/18	SAIFI incentive 2017/18	(173,525)
<i>S</i> TOTAL 2017/18	SAIDI incentive plus SAIFI incentive 2017/18	(347,050)
Recoverable cost 2019/20	<i>S</i> TOTAL 2017/18 adjusted for the time value of money	(390,608)

2017 Assessment Period

Quality Incentive Adjustment		
Term	Description	Value \$
<i>S</i> SAIDI 2016/17	SAIDI incentive 2016/17	(173,525)
<i>S</i> SAIFI 2016/17	SAIFI incentive 2016/17	(138,163)
<i>S</i> TOTAL 2016/17	SAIDI incentive plus SAIFI incentive 2016/17	(311,688)
Recoverable cost 2018/19	<i>S</i> TOTAL 2016/17 adjusted for the time value of money	(350,808)

Major Event Days (MED)

There were five major event days in 2019. The cause of each Major Event Day within the Assessment Period (clause 11.5(f)) is detailed below:

SAIFI

1. 8 April 2018

This MED was driven by a single outage on the Gadsby/Wairere 33kV line that was caused by a possum. The pole where the possum contact occurred was up to network standard and fitted with possum guards. As a result of this fault, protection at the Transpower substation also operated which cut supply to an additional 1850 customers connected to Waitete substation.

2. 20 November 2018

This MED was driven by a single outage on the Gadsby/Wairere 33kV line that was caused by the contact of geese with the line. As a result of this fault, protection at the Transpower substation also operated which cut supply to an additional 1850 customers connected to Waitete substation. As this outage has similar characteristic to the MED outage that occurred on 08 April 2018, TLC investigated the outage further and determined that the protection setting between TLC and Transpower were not coordinated correctly. Discussions are underway to resolve the protection coordination issue with Transpower.

SAIDI

1. 25 November 2018

This MED was driven by a single intermittent outage (14.63 SAIDI). Due to the intermittent nature of the fault, the cause and location of the fault took over 7 hours to locate. After an initial line inspection was unable to locate the fault, the line was re-livened in sections using a standard fault finding process e.g. livening the line section by section working out from the zone substation. Due to the intermittent nature of the fault, no fault was found during this fault finding and restoration process. Power to all customers was restored with no fault cause identified.

Subsequent to a further outage a second line patrol was undertaken, and a tree was found to be in contact with the line near the beginning of the feeder. Fault staff cleared the branches that were making contact, and further tree clearance was completed on 4/12/2018.

2. 1 June 2018

This outage was the result of a car vs pole on the Lake Taupo 33kV feeder and impacted over 1,100 customers, which resulted in 31.55 SAIDI minutes. TLC staff were unable to access the site for approximately six hours to allow for the completion of police investigations, following which assessment and remedial work were completed. As this was on a long weekend, and the customers in the area are predominantly holiday homes, the demand was 3 MW, which was above the capacity of the backup supply. The back-up supply from Turangi substation on the other side of town could only be used to supply 488 of the 1,331 customers impacted. A generator was connected to supply remaining customers until the pole could be replaced and normal supply restored approximately 22 hours after the event.

The generator was utilised as TLC crews were not able to effect repairs immediately as access to the site was restricted as a fatality had occurred. The outage occurred at 17:37 on 1/06/18 with fault staff attending at 18:14 to confirm the site is safe for emergency services. The back-up supply was connected at 20:12, and the generator (sourced from Auckland) was connected at 06:12 on 2/06/18.

3. 10 April 2018

There were two major outages that contributed to this MED.

The first major outage was in National Park and was the result of a tornado (4.85 SAIDI). The tornado caused damage to multiple spans of conductor and required the straightening of 5 poles that had tipped over in the ground.

The second major outage was on the Te Mapara feeder caused by a tree that fell through the line (4.98 SAIDI). Due to the extent of the storm, TLC escalated its storm response process and had mobilised an additional four crews for fault response/repairs (normally there would be two fault response/repair crews working). However, due to the large number of outages that fault staff attended on the day (31 TLC network faults and 26 private line faults), and the extent of the repairs required fault staff were unavailable to complete repairs on the Te Mapara feeder until the following morning.

The majority of outages (22) were blown fuses to single transformers that were attributed to lightning. The other significant outage (4) were due to vegetation contact with lines and (2) lines brought down by conductor clashing in the wind.

Appendix F – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e))

The following notes document the procedure used to capture all outages experienced on The Lines Company (TLC) network and interconnected private networks.

The Lines Company uses a SQL database called BASIX to capture all outages. BASIX has the inter-connectivity of all equipment on the TLC Network and interconnected private networks programmed into its Connectivity Model. The 33/11 kV connectivity model is updated by the Network Control Team when any changes on the TLC Network are made. The Lines Company customer ICP's are updated by the Customer Engagement Team via CIS software and routinely uploaded in the BASIX Connectivity Model. The operation of any network equipment is recorded into BASIX, which then calculates and returns an outage result.

The Network Control Team manages outages and incidents on the network, identifying causes and outage types. Information gathered is used to update the TLC Daily Control Room Log spreadsheet. The TLC Engineering team are notified should a major outage or fault requiring further investigation occur.

The TLC Daily Control Room Log data is obtained from the following:

- The primary source for unplanned outages on automated equipment are reports from the network Abbey SCADA system.
- The primary source of unplanned outages on non-automated equipment is customer calls received by the Lines Company Faults Team. Each call is entered directly into BASIX and automatically allocated a unique number by the BASIX System. The Faults Team dispatches the outage details to a Faultman to address. All information received from the Faultman is then updated in BASIX against the same unique number, and the Basix restored time checked (if applicable).
- Planned Outage applications are subject to approval from the Network Control Team. Each application is assigned a unique reference, identifying both the request and whom it was submitted by.

All information captured into the TLC Daily Control Room Log is checked and validated by the Network Control Team. A spreadsheet is then used to create a Daily Outage Summary which estimates the effect of the outages before recording in Basix. Supporting documentation in the form of daily SCADA Auto Recloser printouts, Switching Schedules for planned outages, Applications to Work on TLC Network and associated documents and Permits issued, along with the Daily Outage Summary, are scanned as a PDF and electronically filed for each day.

The Network Control Team is then responsible for recording the relevant Daily Control Room Log details for each outage into BASIX, which allocates a unique sequential tracking number to each record. The following information is captured in Basix:

- Description of Outage
- Date and Time of Interruption
- Date and Time of Restoration
- Operated Asset
- BASIX Fault Reference (if applicable)
- Outage Type

- Primary Cause
- Cause Description
- Switching Operations of all operated equipment
- Any other notes or comments significant to the outage.

The daily PDF of scanned supporting documentation is also linked into BASIX against the record for the first outage recorded each day.

Once entered into BASIX, the outage is then calculated using the connectivity model data to return the following details:

- outage minutes
- number of consumers affected
- customer minutes
- affected loads
- affected assets
- outage SAIDI
- outage SAIFI

The calculated figures are checked against the spreadsheet estimate to ensure they materially align with expectations.

BASIX performs overnight runs to consolidate the initial outage calculations into the Daily, Monthly and Year-to-date reports.

The BASIX report data is monitored by the Asset Engineer and reviewed by The Lines Company Management Team. It is included in Network Overview documents and forwarded to the Board of Directors.

The outage data is audited by an external auditing company before being publically disclosed to comply with Commerce Commission DPP requirements.

