

Update 2019

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company

Asset Management Plan

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1 Executive Summary

This 2019 Asset Management Plan (AMP) Update identifies material changes from our 2018 AMP.

Our key focus remains on cost effectively increasing the reliability of our network through improving security of supply, improving power transformer redundancy, increasing the use of network automation, enhancing our vegetation management, and advancing the replacement of equipment that is not achieving the required level of reliability performance.

The changes identified within this AMP update relate largely to timing of projects and programmes within the planning period, with a number of projects and initiatives brought forward to ensure that our network achieves the required level of reliability.

Forecast capex across the planning period is \$141m, which is \$1.3m down on the AMP 2018 planning period. Over the first three years of the planning period, major upgrades to security of supply at four substations will be completed, providing an alternate means of supply to 4,500 customers. We will also be investing in spare power transformers as a cost effective means of responding to transformer failure at smaller substations.

Due to our sparsely populated and large geographical area our network design is largely radial (with limited redundancy at distribution voltages). To minimise the impact of outages on this type of network, we have increased investment and reprioritised our network automation programme over the planning period with an increased focus in early years.

These security and automation enhancements amount to \$15.2m over the planning period.

Our analysis of fault causes over recent years has resulted in a 57% increase in the replacement of crossarms and insulators. We have managed this increase in expenditure through a reprioritisation of our pole replacement programme, as the pole asset condition and reliability can support some minor deferment.

We saw an increase in vegetation related outages in FY18, and as a result we have increased spend on our vegetation management by \$300k over the first two years of this plan.

Combined, these initiatives target a reduction in SAIDI of 86 minutes/customer and SAIFI of 0.52 outages/customer by the end of FY22 (when compared to our reliability over FY17 to FY18). There will be some degree of overlap in the reliability benefits of the projects and programmes (e.g. network automation will likely drive a reduction in vegetation outages), however even if the combined effect of these projects was only 70% of the targeted improvement, the network will achieve compliance with our regulatory quality measures.

From 2019 we have included metering costs in our network opex as a result of the change to our pricing methodology. This has resulted in an \$11.2m increase in forecast opex to \$127.3m when compared to AMP 2018. From a customer perspective, this is a transfer of cost from non-regulated to regulated cost so has a net effect of zero on customer prices.

Forecast capital expenditure for the office replacement has decreased from \$3.1m to \$2.5m in FY20 & FY21 and is a holding amount while further office options are explored.

Funding was secured from the Energy Efficiency and Conservation Authority's (EECA) Round Four Low Emission vehicle fund for the installation of three fast chargers across the King Country. This has seen an additional \$260k added to non-network expenditure in FY20.

Overall, we believe that the changes identified in this AMP will improve the quality of service that the network provides our consumers with minimal impact on costs and prices (with all other things being equal).

2 Introduction

2.1 Purpose

This Asset Management Plan update (AMP) describes material changes to our 2018 Asset Management Plan that affect our electricity network, our assets and our investment requirements. It also provides an overview of any changes to our asset management practices, our planning and our key risks and issues as we perceive them.

The purpose of this AMP is to communicate with our stakeholders by:

- Identifying any material changes to the network development plans disclosed in the 2018 AMP
- Identifying any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the 2018 AMP
- Providing the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and the Report on Forecast Operational expenditure set out in Schedule 11b; and
- Identifying any changes to the asset management practices of the EDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure.

This Asset Management Plan was approved by The Lines Company Limited Board of Directors on 28 March 2019.

2.2 Overview

In the past 12 months three key events have triggered a change to our asset management drivers, this has resulted in material changes to our network capital and operational expenditure plans. They are:

- A thorough review of our reliability performance as a result of our contravention of the regulatory quality standards for TLC for FY17 and FY18.
- An update of our network security standard prompting a reprioritization of some major security of supply projects.
- Further power transformers failures and issues that have resulted in a reduction of security and a consumption of spares.

Changes to non-network expenditure include

- The transfer of metering costs from unregulated to regulated costs due to the change in pricing methodology.
- The inclusion of funding to provide three EV fast chargers across the King Country Region

2.3 Planning period covered by this plan

This plan covers a ten-year period from 1 April 2019 to 31 March 2029 (financial years 2020 to 2029 – the planning period). As with any long-term plan, the details tend to be more accurate in the earlier years as it is easier to predict the near-term state of our assets and required actions, plans and expenditure.

3 Material Changes

In this section we outline the five key changes we have made to the management of our assets:

- Improving security of supply at zone substations;
- 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.

We have also included a summary of changes in our non-network expenditure.

3.1 Improving security of supply at zone substations

3.1.1 Changes in TLCs security of supply standards

TLC has recently updated our Security of Supply standard for our zone substations. This sets performance levels for newly designed substations. It also provides a basis with which to assess the technical and economic viability of upgrades to existing substations to meet the security of supply standard.

Table 1 Zone substation security of supply

Class	Description	Size of Load (MVA)	OR	Customers Supplied	Single cable, line or transformer fault	Double cable, line or transformer fault	Bus or switchgear fault
Z0	Special Industrial	>2			Commercial Agreement	Commercial Agreement	Commercial Agreement
Z1	Large Zone Substation	>5		>1500	No interruption	Restore 75% within 2 hours and the rest in repair time	No interruption for 50% and restore within 2 hours
Z2	Medium Zone Substation	2.5 - 5		500-1500	Restore within 0.5 hour	Restore 50% within 4 hours and the rest in repair time	Restore 50% within 4 hours and the rest in repair time
Z3	Small Zone Substation	<2.5		<500	Restore 50% within 4 hours and the rest in repair time	Restore in repair time, Generators support if over 12 hours	Restore within 4 hours

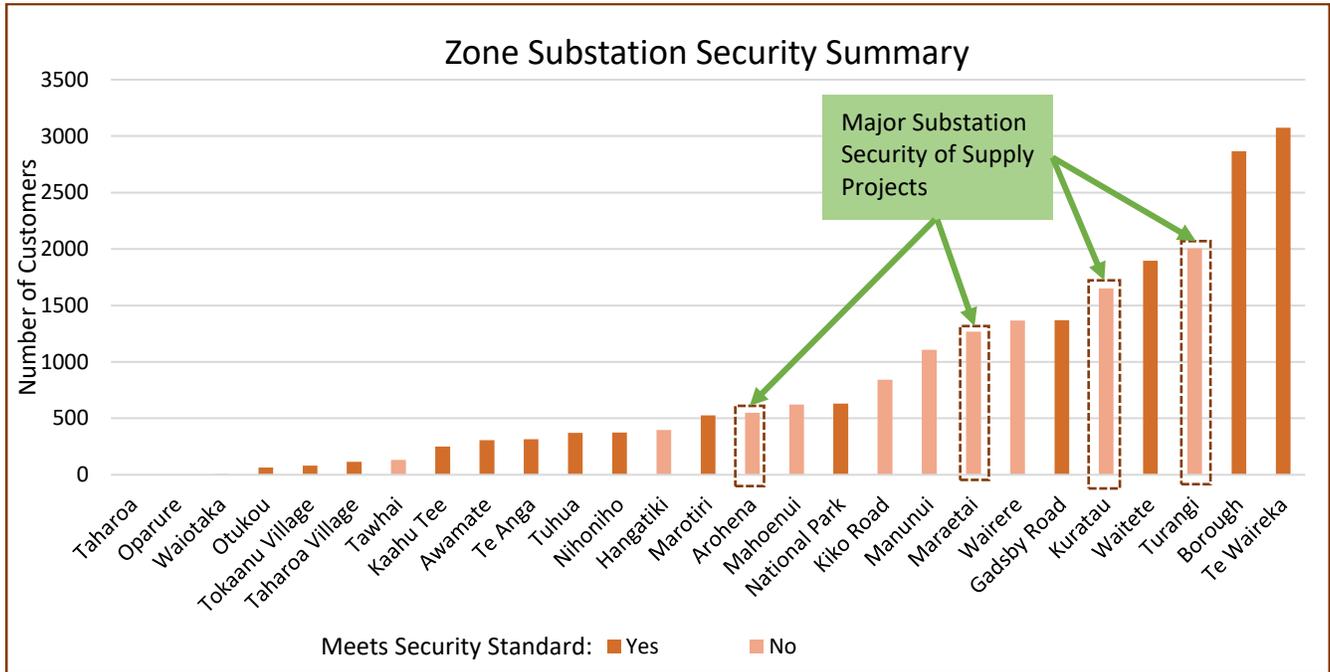
3.1.2 Changes since AMP 2018

The update of our security of supply standard has prompted a reprioritisation of a number of security of supply projects.

Figure 1 shows an assessment of the current zone substation configuration against the security of supply standard. Overall around 8,000 (30%) customers are connected to substations that do not meet our security of supply standard.

This reprioritisation will see investment in improving security at Kuratau, Turangi and Maraetai brought forward within the planning period, and completion of work to provide a back feed to Arohena completed in FY20.

Figure 1: Zone Substation Network Security



3.1.3 Actions for 2019 AMP

The substations highlighted in Figure 1 indicate areas where priority work will be undertaken over the next three years to strengthen security of supply. Together these substations serve ~5,550 customers (~23%) of TLC’s customer base.

A summary of these projects is highlighted below:

Kuratau

To address security of supply issues at Kuratau an additional transformer will be installed to replace the unit that failed in FY18. New switchgear and transformer protection will also be installed to minimise any disruption caused by a single transformer fault and to provide improved back up 11kV protection. This will improve the security of supply to over 1600 customers on the western side of Lake Taupo.

The estimated cost of this project is **\$295k**, and the estimated Value of Lost Load (VoLL) to our Kuratau customers from a single transformer event (12-hour duration, 2.5MW) is \$600k. On this basis the expenditure represents a positive economic and performance return with the project only having to prevent six hours of outage across the life cycle of a transformer (50 years) to provide benefit. This is easily achievable when considering planned maintenance requirements of one substation.

Turangi

The Turangi area operates on ‘N’ security with only limited 11kV backup available between the three zone substations that supply the town. Each side of the town is feed by a radial 33kV line that has a high customer impact in the event of a fault.

This project will be completed in two phases, with the initial step being completed in FY20. The first phase will see the installation of a larger 11kV cable across the SH1 Tongariro river bridge that allows the supply to be restored if either Waitotaka zone substation or if the 33kV to it is out of service. Estimated cost is **\$290k**.

To achieve full 'N-1' security in Turangi the creation of a 33kV ring between Waitotaka and Turangi zone substations is planned. This work requires consent and land access requirements to be met and is therefore scheduled for completion in FY22. The estimated cost for this work is **\$2.3m**.

The estimated VoLL for a 12-hour outage due to a sub-transmission fault is \$960k. Based on this, with an overall project cost of \$2.3m, this work would need to prevent approximately 36 hours of outages across its life cycle (50 years) to provide benefit. Due to the radial nature of the Turangi area sub-transmission network and its exposure to car vs pole incidents and general vegetation, this equates to an average of 45 minutes per year, the occurrence of which is credible based on previous planned and unplanned outages.

Maraetai

The current customer count and peak load at Maraetai Zone Substation sees it classed as a large substation with circa 1300 connected customers. This substation is supplied from a single 10km stretch of 33kV line and has limited back feed options for customers. Planned outages are difficult to schedule due and are generally scheduled for winter evenings, and require significant expenditure on temporary generation to supply customers during these outages.

A new zone substation is planned to address this by providing strong 11kV ties to provide backup to existing the existing Maraetai feeders and to accommodate forecast load growth on the north-eastern side of the Waikato River. Consenting and land acquisition will commence in FY20 with completion of this substation scheduled for FY22.

A 24-hour outage due to transformer failure at Maraetai would see an estimated VoLL of \$1.68m. The cost of the new substation is forecast as **\$2.4m**, and to provide economic benefit in excess of the estimated VoLL would need to prevent around 36 hours of outage over its life cycle, or an average of 45 minutes per year. Planned maintenance work on the existing Maraetai substation would exceed this duration and unplanned outages would further contribute to this.

Arohena

The recent completion of upgrades at Hangatiki and Te Waireka provides options to complete an 11kV back feed to the Arohena Substation. Arohena supplies around ~550 predominantly dairy farming customers and is supplied by a single 33kV spur line from the Maraetai substation.

The completion of line renewal and re-conductoring work on the Wharepapa feeder will enable a switched backup supply to Arohena customers in the event of a transformer or sub-transmission line outage at Arohena. This also has the added benefit of providing a back up to one of our largest 11kV feeders (the Maihihi feeder). This feeder supplies 930 customers with over 600 being rural customers that will benefit from this upgrade.

This work is scheduled for completion in FY20 and is estimated to cost **\$1.7m**. The VoLL for a 24-hour outage at Arohena is \$612k. On this basis, the work will need to prevent 67 hours of outages over the 50-year life cycle of the upgrade. Recent outages affecting Arohena have taken longer than 24 hours to resolve and have involved installation of temporary generation to supply customers at significant cost.

This work is a key enabler of renewal work on the sub-transmission line that supplies Arohena and will not only minimise the impact of this planned work, but will reduce the cost of generation needed to support customers while this work is being carried out. The sub-transmission line covers difficult terrain which could see significant time taken to repair a line failure.

On this basis this work will improve overall performance for our Arohena customers and will provide benefit in excess of the cost over its life cycle.

3.1.4 Target Network Performance Improvement (end of FY22)

The security of supply work has a target completion date by the end of FY22, at which time 21,500 of our customers will be connected to substations that meet or exceed our security of supply standard, which leaves around 3,500 (15%) of our customers who will remain connected to substations below our security of supply standard. Alternative options to address this using new or traditional technology will be considered over the next two years. This could include diesel generation, solar, battery storage, or a combination of all of these.

We forecast that these improvements will reduce unplanned outages by:

SAIDI Reduction	13 minutes per customer
SAIFI Reduction	0.24 interruptions per customer

(when compared to FY17 and FY18 performance)

These reductions do not result in any changes to our reliability targets included in Schedule 12d.

3.1.5 Impact on expenditure forecasts

The forecast expenditure of these security of supply projects is \$6.9m. This work is being managed within the planning period through reprioritisation of other work. Some changes in project scope have seen a reclassification of security of supply expenditure from Asset Renewal to Quality of Service in Schedule 11a. The net effect of this on the overall AMP spend is zero.

3.2 Managing power transformer reliability through increased redundancy

3.2.1 Power Transformer reliability analysis

Power transformers are a critical primary asset and as such are inspected and tested on a routine basis. Visual inspections are carried out on a bi-monthly basis, with dissolved gas analysis (DGA) testing completed on a bi-annual basis, unless the condition or risk profile requires more frequent analysis. Where transformers are removed from service as part of planned outages or for mid-life overhauls, electrical testing is completed to assist in developing a comprehensive view of overall transformer condition.

We have previously identified issues with two brands of power transformer used at our zone substations that have led to a decrease in their reliability and a likely reduction in their serviceable life.

Alstom Power Transformers

The identified issue related to poor crimp connections internal to the transformer. All seven of these transformers were manufactured in the late 1990s to early 2000s at the same factory in Brisbane. The crimp connections saw three units fail in service, with one of those units being a total loss.

Subsequent to this, the remaining six transformers were serviced, replacing the faulty crimp connections and therefore reducing their risk of failure.

One of these transformers failed shortly following return to service at Marotiri Substation after repairs to the crimps were carried out. The transformer was a total loss, and the root cause was identified as failure of a 33 kV coil. The aluminium winding had melted and deposited molten aluminium throughout the windings on the blue phase coil.

ETEL Power Transformers

TLC has six ETEL Power Transformers in service. Three show very high levels of hydrogen due to partial discharge that is caused by a design defect in the transformers. The manufacturer has completed remedial work on five of the six transformers, however higher than usual gassing is still being experienced.

There are no imminent safety issues presented by the gassing as long this is monitored on an ongoing basis with the transformer oil treated to remove the gas regularly, however it is not possible to accurately predict the life cycle impact of this issue on the transformers.

All of the ETEL transformers are installed in locations that can be back fed via the 11kV network.

Managing Transformer Failure

Accurately predicting the probability of failure of these transformers is difficult as it relies on developing a performance trend over time, sometimes years. Lead time on new transformers of this size is 9-12 months following execution of contract.

To date the two transformers that have suffered end of life failures have not had a material outage impact to our customers as spares or transformers within the current fleet have been reallocated to the affected sites, with the short term impact being covered through back feed or generation.

Across our power transformer fleet of 41 installed units we have experienced a failure rate of 3.2% per annum over the past three years. Expected failure rates are in the order of 0.5-1% per annum.

With the inherent difficulty in predicting the probability of failure of transformers, our strategy for managing transformer is focused around the following three points

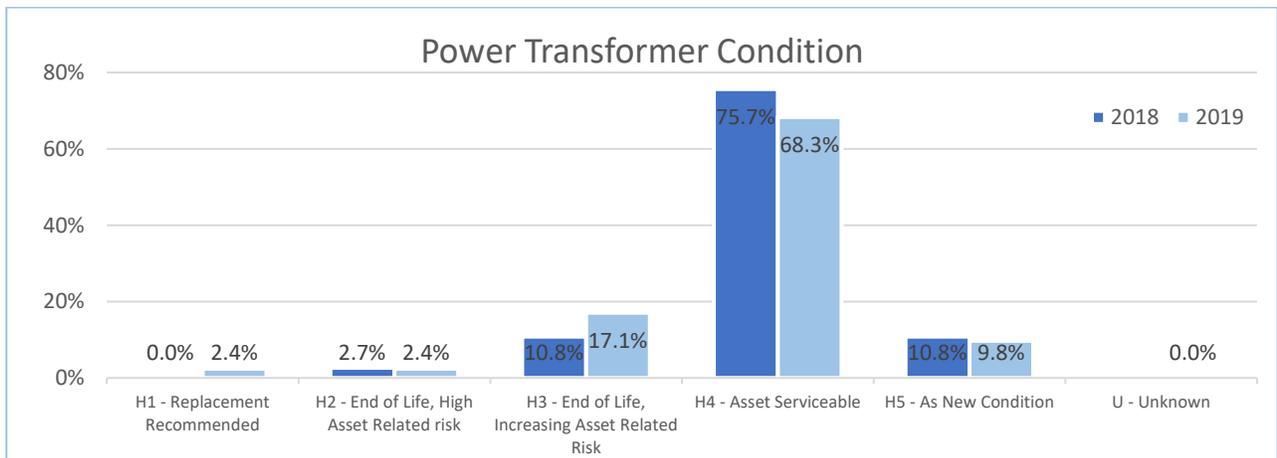
- Continue DGA, operational monitoring and inspection of our power transformer fleet
- Where technically and economically viable implement ‘N-1’ transformer capability
- Ensure that adequate spare transformers are held to allow swift, permanent replacement of failed units.

One 2.5MVA and one 5MVA 33/11kV unit will be held as strategic spares. These will be designed to allow installation into most existing substations.

3.2.2 Changes since AMP 2018

As a result of our recent analysis we have changed the condition grading for these assets as shown in Figure 2.

Figure 2 Transformer Condition Scoring



Te Anga and National Park ETEL transformers continue to show increasing levels of hydrogen, with Te Anga in particular showing concerning levels. These transformers will require proactive replacement.

The continual increases in levels of hydrogen in the Te Anga and National Park transformers reduces our confidence in the long term viability of the ETEL transformer fleet.

The failed Marotiri transformer consumed the last of our spare transformers

As a result of these issues and failures, a second hand 33/11 kV, 5 MVA transformer has been purchased from another EDB. This transformer is in serviceable condition and has provided a cost effective interim solution to managing further unplanned transformer failures across the fleet.

3.2.3 Actions for 2019 AMP

The following work is being undertaken proactively to reduce the risk of significant outages as a result of the latest transformer condition information.

- The recently purchased second hand 5MVA transformer will be deployed to the Piripiri substation to an alternative supply to Te Anga whilst a replacement is purchased.
- A new 2.5MVA transformer will be purchased and deployed to Te Anga.
- A 5MVA transformer will be installed at the Tawhai substation and will provide backup supply to National Park.
- One new 5MVA transformer will be purchased and held as a strategic spare. This will be stored in a secure, bunded area.
- One new 2.5MVA fixed tap transformer will be purchased and held as a strategic spare suitable for fitting into any of the container subs. This will also be stored in a secure, bunded area.

3.2.4 Target Network Performance Improvement (End of FY22)

We forecast that these improvements will reduce unplanned outages by:

SAIDI Reduction	12 minutes per customer
SAIFI Reduction	Minimal

(when compared to FY17 and FY18 performance)

These reductions do not result in any changes to our reliability targets included in Schedule 12d.

3.2.5 Impact on expenditure forecasts

An additional \$800k is forecast for transformer expenditure in this AMP when compared to AMP2018. This is being managed across the planning period through reprioritisation of other work.

3.3 Increasing the use of network automation and protection review

3.3.1 Overview

Protective devices and automation (remote control, sectionalisers, reclosers) allow for a reduction in the impact of unplanned interruptions to our customers. This is either through reducing the amount of the network that is impacted by a fault by isolating a smaller section or alternatively increasing the speed at which power can be restored through network automation.

3.3.2 Actions for AMP 2019 (Automation Programme)

The expanded automation programme focuses on the installation of additional protective devices and the automation of switches to both reduce the number of customers impacted by an outage and also reduce the time to restore.

The locations for new protective devices and sites for automation were determined through fault analysis with the sites with the most reliability benefit programed at the start of the planning period.

3.3.3 Actions for AMP 2019 (Protection Review)

Recent investment in the network has seen a number of incremental changes in configuration and installed asset base. As part of these projects the protection on the relevant areas of the network has been re-engineered.

It has been a number of years since a complete protection co-ordination review has been completed from GXP through to feeder taking into account all the recent incremental improvements.

A complete review of protection setting will be completed on key substations and their associated feeders.

3.3.4 Target Network Performance Improvement (End of FY20)

We forecast that these improvements will reduce unplanned outages by:

SAIDI Reduction	17 minutes per customer
SAIFI Reduction	Minimal

(when compared to FY17 and FY18 performance)

These reductions do not result in any changes to our reliability targets included in Schedule 12d.

3.3.5 Impact on expenditure forecasts

Existing reliability projects have been brought forward and a number of new protection and automation projects have been identified. This amounts to an increase of \$2.1m in automation spend over the planning period (capex).

The annual average investment in network automation over the FY18 and FY19 (forecast) period is \$190k (capex). The work is funded through the re-prioritisation of other work across the planning period.

The protection review will be funded from existing preventative maintenance budgets (opex).

This is the same when compared to the forecasts contained in the 2018 AMP.

3.4 Advancing the replacement of equipment that is not achieving the required level of reliability performance

3.4.1 Summary of our equipment failure rate

Overall the number of faults due to defective equipment is decreasing but the severity of the outages has seen a slight increase (Table 2). The main driver for the high SAIDI despite the reduction of outages is a small number of faults that impacted large zone substations. Power transformers faults within substations have caused a number of the larger impact outages.

SAIDI impacts are higher on the TLC network than the industry. The reason for the higher SAIDI impacts is likely to be due to the length of outages, which reflects the remote and radial (lack of back-up supplies) configuration of our network.

Table 2 Defective equipment fault trends

	FY16	FY17	FY18	FY19 Forecast
Count	206	196	184	160
SAIDI	84.4	62	86.7	70
SAIFI	1.31	1.08	1.06	1.05

Cross-arm and Insulator outages

TLC has 51,156 cross-arms in service, with this cross-arm population supporting an estimated 127,890 insulators. Analysis of TLC FY18 outage performance shows a high level of SAIDI contribution by outages associated with insulators and cross-arms. This SAIDI contribution comprised 33.5 SAIDI minutes or 39% of defective equipment SAIDI. By count, 22 outages were attributed to cross-arms and 11 to insulators. This represents a fault rate (by asset count) of 0.04% and 0.01% respectively.

With the exception of power transformers as noted above, irreparable failure rates of information disclosure (ID) asset types are typically in line with asset condition as disclosed in Schedule 12a of ID

3.4.2 Actions for AMP 2019

The average cross-arm replacement for FY18 & FY19 (forecast) is 1017 per annum. This represents 1.98% of the cross-arm population. To assist in addressing the relatively high impact that cross-arms and insulators are having on network performance, an additional 584 cross-arms (above the previous two FYs' average) are planned for replacement, bringing the total forecast replacement to 1,601, or an increase of 57%.

During FY20 a review of data quality on cross-arms will be completed to ensure that our replacement programme continues to target the appropriate areas of the cross-arm and insulator population to improve performance.

The use of drones to provide additional condition information on high criticality lines was introduced in FY19, with further work using drones planned for future years. This has proven economically beneficial with the condition of assessed lines being better than previously thought. This resulted in a reduction in line renewal expenditure.

3.4.3 Target Network Performance Improvement

We forecast that these improvements will reduce unplanned outages by:

SAIDI Reduction	11 minutes per customer
SAIFI Reduction	0.08 interruptions per customer

(when compared to FY17 and FY18 performance)

These reductions do not result in any changes to our reliability targets included in Schedule 12d.

3.4.4 Impact on expenditure forecasts

The increased spend on insulator and crossarm replacement is being funded through a small deferral of other line related work. This has been possible through the increased condition information available through the use of drones for line inspections.

3.5 Enhancing vegetation management

3.5.1 Summary of our analysis

Vegetation outages contributed to 57 minutes or 25% of unplanned SAIDI during 2018. This is higher than previously experienced; however, it is too early to determine whether this trend will be sustained.

At 25% of unplanned SAIDI and 12% of unplanned SAIFI over the past three years, there is opportunity to improve our vegetation management. The industry median SAIDI for vegetation outages is 12%, with our peer group (<8 ICPS/km) 17%.

3.5.2 Actions for AMP 2019

By the end of FY21 our target is to achieve vegetation related outages of no greater than 15% of unplanned SAIDI. This will place us between the median of all EDBs (12%) and below our peer group (17%). Based on our current SAIDI target of 208 minutes, this equates to no more than 24 SAIDI minutes, a reduction of 33 minutes over two years against FY18 performance.

The following improvement actions will be in place for FY20 to assist in managing vegetation outages

- Dedicated Vegetation Manager
- Additional vegetation inspections via contracted support
- Additional field resource (contracted)
- Increased use of herbicide in plantation forests
- Trial of Helisaw

Vegetation performance will be assessed near the end of FY21 to determine whether this additional expenditure on vegetation needs to continue post FY21.

3.5.3 Target Network Performance Improvement (End of FY21)

We forecast that these improvements will reduce unplanned outages by:

SAIDI Reduction	33 minutes per customer
SAIFI Reduction	0.20 interruptions per customer

(when compared to FY17 and FY18 performance)

These reductions do not result in any changes to our reliability targets included in Schedule 12d.

3.5.4 Impact on expenditure forecasts

For FY20 & 21 and additional \$300k is budgeted to address vegetation related outages. This spend will be targeted at areas of the network that are showing deteriorating performance in vegetation related outages, and ensuring that critical areas of feeders are clear of vegetation related interference.

3.6 Non-network changes

3.6.1 Corporate Office Building (capex)

Further work on exploring options for the corporate office is currently completed. This has resulted in a reduction of forecast capital costs to \$2.5m across FY20 & FY21 (\$3.1m AMP2018) which is a holding amount pending finalisation of options.

3.6.2 EV Charger Project (capex)

TLC has received funding from the Energy Efficiency & Conservation Authority to deploy EV chargers on our network. The project includes the continuation from FY19 of installing up to 50 cloud-connected 7.2kW EV chargers to assist in establishing a publicly accessible charging network supporting tourism across the King Country region. In addition to this funding has also been received for the installation of three fast chargers, one in Otorohanga district and two Ruapehu District in partnership with local councils.

The intent is to address inherent gaps in existing charging coverage and encourage overnight stays for those driving EVs, bringing wider economic benefit to the community. The project will require engagement with the business community.

This has seen an increase of \$410k in non-network capital expenditure for FY20, with \$260k of this being a related to the new fast chargers and the remainder being transferred from FY19 due to later than expected delivery of the accommodation based chargers.

3.6.3 Metering Costs (opex)

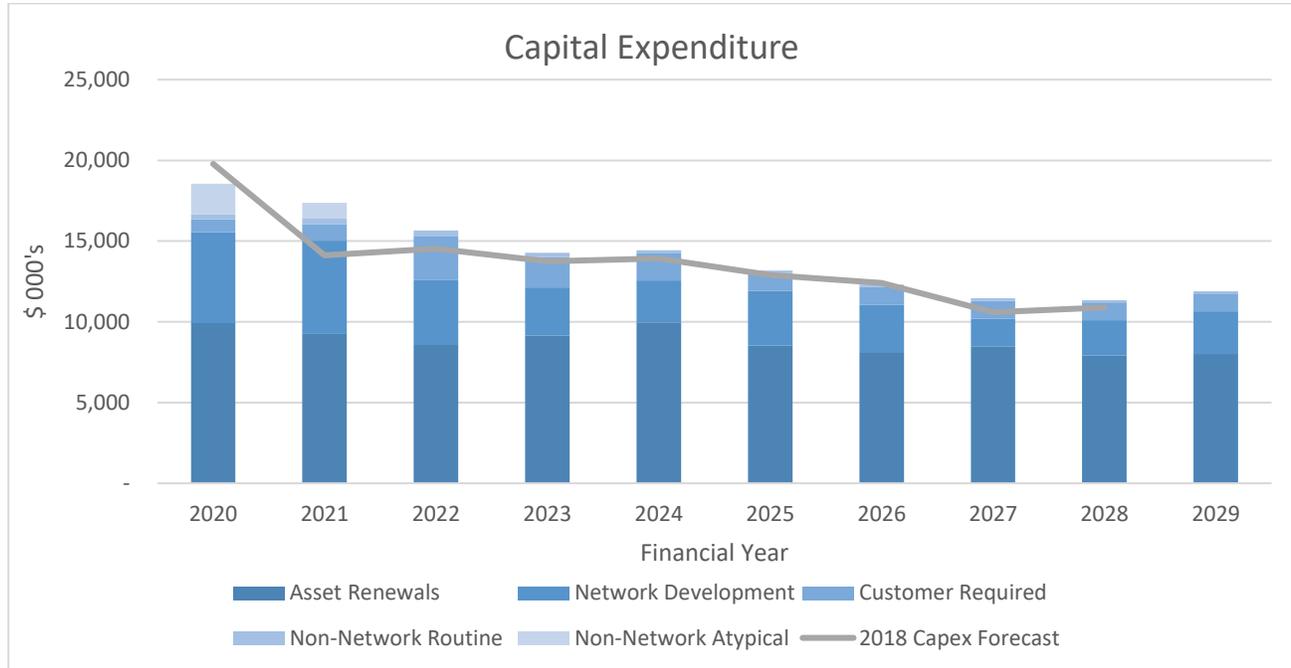
In October 2018 TLC transitioned from peak demand based billing to time of use based charging. This change has resulted in a significant increase in the number of meter reads required with TLC now reliant on the meters to ensure that accurate quantities are billed monthly. As a result, metering costs are now considered as part of core business and are included in the business support costs disclosed in the AMP. However, metering is used for core business operations by both TLC and retailers, and as such when deriving the contribution TLC must recognise as regulatory operating costs and the metering costs must be reasonably apportioned. TLC has estimated its share of these costs (i.e. its regulated operating costs related to metering) at \$1.12m per annum.

As this is a transfer of costs from unregulated to regulated, the net effect of this change at a company level is zero.

4 Changes in forecast expenditure

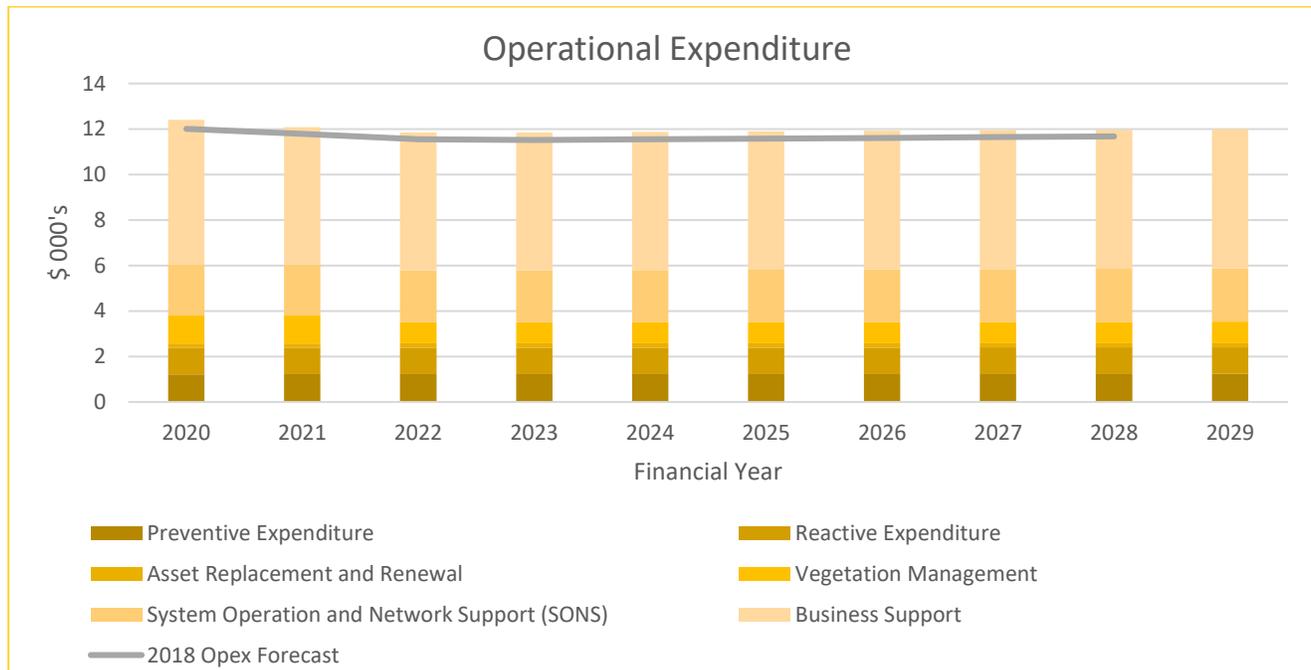
Forecast Capital expenditure is \$141m, which is \$1.3m down on the AMP 2018 planning period.

Figure 3: Capital Expenditure Forecast



Operations and maintenance costs have increased by \$300k for vegetation and \$1.12m for metering that is included in business support.

Figure 4 Operational Expenditure Forecast



5 Asset Condition Data Quality

With the exception of power transformers as noted in Section 3.2, overall asset failure rates indicate that the asset condition data that is currently held is representative of the underlying asset condition.

This condition information is primarily based on age and over time will be transitioned to a risk based framework, of which asset age will be an influencing factor. A number of asset classes have a high number of assets with default installation dates from the digitisation of asset records in the early nineties. This skews the condition assessment for the overall population of assets. Although not evident at the moment this could lead to over or under investment in an asset class.

During FY20, a desktop assessment of asset ages will be carried out with a view to reducing the number of default installation dates and increasing the accuracy of the underlying condition information. This assessment will be made using inspection data where available, and if not will be based on installation records for the general area.

This work will be carried out by TLC analysts and reviewed by the relevant Asset Engineer prior to implementation. It is expected that the increase in data accuracy will lead to more accurate investment decisions in future AMPs. The cost of this review will be accommodated within existing staffing levels and workloads.

6 Schedules

		Company Name: The Lines Company										
		AMP Planning Period: 1 April 2019 – 31 March 2029										
		This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions). EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.										
Sub Ref		Current Year CY 31 Mar 19	CY1 31 Mar 20	CY2 31 Mar 21	CY3 31 Mar 22	CY4 31 Mar 23	CY5 31 Mar 24	CY6 31 Mar 25	CY7 31 Mar 26	CY8 31 Mar 27	CY9 31 Mar 28	CY10 31 Mar 29
7	Consumer connection	4,937	789	1,082	2,874	2,004	1,871	1,230	1,257	1,285	1,313	1,242
8	System growth	3,097	2,916	3,255	757	2,400	2,893	1,895	777	1,297	1,392	2,518
9	Asset replacement and renewal	7,882	8,549	7,977	7,692	9,249	10,449	9,278	9,058	9,590	9,517	9,688
10	Asset relocations	32	50	12	33	33	13	33	10	14	14	15
11	Reliability, safety and environment:											
12	Quality of supply	1,994	2,672	2,620	3,335	776	433	2,082	2,573	582	585	657
13	Legislative and regulatory	1,610	1,372	1,483	1,316	732	311	876	240	385	293	88
14	Other reliability, safety and environment	3,604	4,044	4,033	4,672	1,008	744	2,206	2,783	867	849	762
15	Total reliability, safety and environment	17,532	18,349	16,899	16,607	14,954	15,580	14,515	13,839	13,154	13,325	14,285
16	Expenditure on network assets	18,537	18,551	17,852	16,345	15,248	15,247	14,686	14,014	13,333	13,368	14,472
17	Expenditure on non-network assets	270	371	348	313	286	289	283	246	239	277	298
18	Cost of financing											
19	Less: Value of capital contributions											
20	plus: Value of vested assets											
21	Capital expenditure forecast	18,537	18,922	18,099	16,658	15,524	16,085	14,980	14,260	13,561	13,715	14,770
22	Assets commissioned	17,532	18,349	16,899	16,607	14,954	15,580	14,515	13,839	13,154	13,325	14,285
23												
24												
25												
26												
27												
28												
29												
30												
31												
32	Consumer connection	4,937	789	1,039	2,751	1,977	1,715	1,103	1,103	1,103	1,103	1,103
33	System growth	3,097	2,916	3,855	725	2,746	2,892	1,951	698	1,209	1,674	2,070
34	Asset replacement and renewal	7,882	8,549	7,855	7,394	8,977	9,679	8,277	7,949	8,235	7,684	7,949
35	Asset relocations	32	50	12	32	32	12	32	12	12	12	12
36	Reliability, safety and environment:											
37	Quality of supply	1,994	2,672	2,564	3,212	777	397	1,832	2,295	509	500	540
38	Legislative and regulatory	1,610	1,372	1,451	1,240	717	385	274	188	344	213	76
39	Other reliability, safety and environment	3,604	4,044	4,014	4,479	946	682	3,056	2,442	2,442	2,133	206
40	Total reliability, safety and environment	17,532	18,349	16,899	16,345	14,954	15,580	14,515	13,839	13,154	13,325	14,285
41	Expenditure on network assets	18,537	18,551	17,852	16,345	15,248	15,247	14,686	14,014	13,333	13,368	14,472
42	Expenditure on non-network assets	270	371	348	313	286	289	283	246	239	277	298
43	Cost of financing											
44	Less: Value of capital contributions											
45	plus: Value of vested assets											
46	Subcomponents of expenditure on assets (where known)											
47	Energy efficiency and demand side management, reduction of energy losses											
48	Owned to underground conversion											
49	Research and development											
50												

Line Item	Current Year CY										
	31 Mar 19	CY1 31 Mar 20	CY2 31 Mar 21	CY3 31 Mar 22	CY4 31 Mar 23	CY5 31 Mar 24	CY6 31 Mar 25	CY7 31 Mar 26	CY8 31 Mar 27	CY9 31 Mar 28	CY10 31 Mar 29
Difference between nominal and constant price forecasts											
Consumer connection	-	-	23	122	127	156	127	154	182	210	239
System growth	-	-	70	32	152	200	175	89	197	318	448
Asset replacement and renewal	-	-	172	328	602	879	951	1,109	1,355	1,463	1,720
Asset relocations	-	-	0	1	1	1	1	2	2	2	3
Reliability, safety and environment:											
Quality of supply	-	-	56	143	49	36	211	315	82	95	117
Legislative and regulatory	-	-	32	56	15	26	32	26	40	40	15
Other reliability, safety and environment	-	-	88	199	341	62	242	341	172	136	132
Total reliability, safety and environment	-	-	353	687	945	1,299	1,496	1,694	1,859	2,129	2,541
Expenditure on network assets	-	-	178	206	67	(117)	18	21	25	29	31
Expenditure on non-network assets	-	-	681	886	1,022	1,181	1,514	1,715	1,884	2,158	2,574
11a)(ii): Consumer Connection											
<i>Consumer types defined by EDP*</i>											
Standard Connection: Urban	107	109	109	109	109	109	109	109	109	109	109
Standard Connection: Rural	248	253	253	253	253	253	253	253	253	253	253
Standard Connection: Remote Rural	27	27	27	27	27	27	27	27	27	27	27
Non-Standard Customer Connection	4,555	400	650	2,362	1,488	1,326					
<i>*include additional rows if needed</i>											
Consumer connection expenditure	4,937	789	1,039	2,751	1,877	1,715					
less Capital contributions funding consumer connection	-	-	-	-	-	-	-	-	-	-	-
Consumer connection less capital contributions	4,937	789	1,039	2,751	1,877	1,715					
11a)(iii): System Growth											
Subtransmission	190	-	1,275	-	1,451	615	-	-	-	-	-
Zone substations	-	-	-	-	-	-	-	-	-	-	-
Distribution and LV lines	105	1,250	1,650	425	105	425	105	425	105	425	105
Distribution substations and LV cables	802	1,646	70	608	575	1,050	-	-	-	-	-
Distribution substations and transformers	-	-	-	-	-	-	-	-	-	-	-
Distribution switchgear	-	-	-	-	-	-	-	-	-	-	-
Other network assets	-	-	190	116	116	112	-	-	-	-	-
System growth expenditure	1,097	2,916	3,185	725	2,248	2,202					
less Capital contributions funding system growth	-	-	-	-	-	-	-	-	-	-	-
System growth less capital contributions	1,097	2,916	3,185	725	2,248	2,202					

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SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure years and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecasts is to be expressed in both constant price and nominal dollar terms. EDIs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.

sch ref	for year ended	Current Year CY 31 Mar 19	CY+1 31 Mar 20	CY+2 31 Mar 21	CY+3 31 Mar 22	CY+4 31 Mar 23	CY+5 31 Mar 24	CY+6 31 Mar 25	CY+7 31 Mar 26	CY+8 31 Mar 27	CY+9 31 Mar 28	CY+10 31 Mar 29	
		\$000 (in nominal dollars)											
9		1,165	1,165	1,188	1,212	1,236	1,261	1,286	1,312	1,338	1,365	1,392	
10	Service interruptions and emergencies	984	1,220	1,246	971	992	1,012	1,034	1,055	1,078	1,100	1,123	
11	Vegetation management	1,199	1,219	1,245	1,271	1,299	1,326	1,355	1,384	1,413	1,444	1,475	
12	Routine and corrective maintenance and inspection	190	190	194	197	201	205	210	214	218	222	227	
13	Asset replacement and renewal	3,538	3,794	3,872	3,652	3,728	3,884	3,965	4,047	4,131	4,217	4,307	
14	Network Opex	2,520	2,247	2,305	2,420	2,440	2,480	2,542	2,605	2,670	2,737	2,805	
15	System operations and network support	6,431	6,359	6,148	6,313	6,422	6,564	6,708	6,856	7,007	7,162	7,320	
16	Business support	8,663	8,606	8,431	8,674	8,842	9,044	9,250	9,462	9,678	9,899	10,125	
17	Non-network opex	12,201	12,400	12,333	12,236	12,520	12,849	13,135	13,426	13,725	14,030	14,342	
18	Operational expenditure												

for year ended	Current Year CY 31 Mar 19	CY+1 31 Mar 20	CY+2 31 Mar 21	CY+3 31 Mar 22	CY+4 31 Mar 23	CY+5 31 Mar 24	CY+6 31 Mar 25	CY+7 31 Mar 26	CY+8 31 Mar 27	CY+9 31 Mar 28	CY+10 31 Mar 29	
	\$000 (in constant prices)											
21	1,165	1,165	1,185	1,165	1,165	1,165	1,165	1,165	1,165	1,165	1,165	
22	984	1,220	1,246	971	992	1,012	1,034	1,055	1,078	1,100	1,123	
23	1,199	1,219	1,245	1,271	1,299	1,326	1,355	1,384	1,413	1,444	1,475	
24	190	190	194	197	201	205	210	214	218	222	227	
25	3,538	3,794	3,796	3,513	3,513	3,513	3,513	3,521	3,521	3,526	3,528	
26	2,520	2,247	2,238	2,410	2,410	2,420	2,480	2,542	2,605	2,670	2,737	
27	6,431	6,359	6,027	6,048	6,052	6,044	6,076	6,088	6,100	6,113	6,125	
28	8,663	8,606	8,285	8,337	8,332	8,355	8,378	8,402	8,425	8,449	8,472	
29	12,201	12,400	12,082	11,848	11,845	11,871	11,896	11,922	11,948	11,974	12,001	

Subcomponents of operational expenditure (where known)

31	Energy efficiency and demand side management, reduction of energy losses	-	-	-	-	-	-	-	-	-	-	-
32	Direct billing*	2,207	1,844	1,735	1,738	1,777	1,818	1,859	1,901	1,944	1,988	2,033
33	Research and Development	-	-	-	-	-	-	-	-	-	-	-
34	Insurance	195	200	206	302	308	314	320	327	333	340	347

* Direct billing expenditure by suppliers that direct bill the majority of their consumers

for year ended	Current Year CY 31 Mar 19	CY+1 31 Mar 20	CY+2 31 Mar 21	CY+3 31 Mar 22	CY+4 31 Mar 23	CY+5 31 Mar 24	CY+6 31 Mar 25	CY+7 31 Mar 26	CY+8 31 Mar 27	CY+9 31 Mar 28	CY+10 31 Mar 29	
	\$000											
41												
42	Service interruptions and emergencies	23	47	71	96	121	147	173	200	227	254	
43	Vegetation management	24	38	57	77	116	139	161	183	205	227	
44	Routine and corrective maintenance and inspection	24	49	75	101	128	155	183	212	241	270	
45	Asset replacement and renewal	4	8	12	16	20	24	28	33	37	41	
46	Network Opex	76	142	215	290	366	444	524	605	688	773	
47	System operations and network support	45	92	140	189	240	292	346	401	458	517	
48	Business support	121	245	370	500	632	768	907	1,049	1,195	1,344	
49	Non-network opex	166	337	510	689	872	1,060	1,253	1,450	1,653	1,861	
50	Operational expenditure	242	479	725	979	1,238	1,504	1,777	2,056	2,341	2,631	

Difference between nominal and real forecasts

42	Service interruptions and emergencies										
43	Vegetation management										
44	Routine and corrective maintenance and inspection										
45	Asset replacement and renewal										
46	Network Opex										
47	System operations and network support										
48	Business support										
49	Non-network opex										
50	Operational expenditure										

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SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref	Voltage	Asset category	Asset class	Asset condition at start of planning period (percentage of units by grade)											% of asset forecast to be replaced in next 5 years
				H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1-4)					
7	All	Overhead Line	Concrete poles / steel structure	0.70%	0.22%	0.54%	78.29%	10.20%	10.05%	10.05%	3	3	0.92%		
8	All	Overhead Line	Wood poles	2.26%	0.86%	1.09%	52.19%	6.24%	37.35%	37.35%	2	2	3.12%		
9	All	Overhead Line	Other pole types	-	-	-	-	-	-	-	N/A	N/A	-		
10	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	-	15.66%	-	83.66%	0.63%	0.63%	0.63%	2	2	9.64%		
11	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	-	-	-	-	-	-	-	N/A	N/A	-		
12	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	-	-	-	26.09%	60.87%	13.04%	13.04%	3	3	-		
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	-	-	-	-	-	-	-	N/A	N/A	-		
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	-	-	-	-	-	-	-	N/A	N/A	-		
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	-	-	-	-	-	-	-	N/A	N/A	-		
16	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	-	-	-	-	-	-	-	N/A	N/A	-		
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	-	-	-	-	-	-	-	N/A	N/A	-		
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	-	-	-	-	-	-	-	N/A	N/A	-		
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	-	-	-	-	-	-	-	N/A	N/A	-		
20	HV	Subtransmission Cable	Subtransmission submarine cable	-	-	-	-	-	-	-	N/A	N/A	-		
21	HV	Subtransmission Cable	Subtransmission submarine cable	-	-	-	-	-	-	-	N/A	N/A	-		
22	HV	Subtransmission Cable	Subtransmission submarine cable	-	-	-	-	-	-	-	N/A	N/A	-		
23	HV	Zone substation Buildings	Zone substations up to 66kV	-	-	-	80.00%	20.00%	20.00%	20.00%	4	4	-		
24	HV	Zone substation Buildings	Zone substations up to 66kV	-	-	-	-	-	-	-	N/A	N/A	-		
25	HV	Zone substation Buildings	Zone substations 110kV+	-	-	-	-	-	-	-	N/A	N/A	-		
26	HV	Zone substations switchgear	22/33kV CB (Indoor)	-	-	-	-	-	-	-	N/A	N/A	-		
27	HV	Zone substations switchgear	22/33kV CB (Outdoor)	1.59%	-	-	66.67%	30.16%	1.59%	1.59%	3	3	1.59%		
28	HV	Zone substations switchgear	33kV Switch (Ground Mounted)	-	-	-	-	-	-	-	N/A	N/A	-		
29	HV	Zone substations switchgear	33kV Switch (Pole Mounted)	0.48%	7.25%	-	76.33%	15.94%	-	-	3	3	4.50%		
30	HV	Zone substations switchgear	33kV R/MU	-	-	-	-	-	-	-	N/A	N/A	-		
31	HV	Zone substations switchgear	50/66/110kV CB (Indoor)	-	-	-	-	-	-	-	N/A	N/A	-		
32	HV	Zone substations switchgear	50/66/110kV CB (Outdoor)	-	-	-	-	-	-	-	N/A	N/A	-		
33	HV	Zone substations switchgear	3.3/6.6/11/22kV CB (ground mounted)	11.43%	-	-	82.86%	4.29%	1.43%	1.43%	3	3	11.43%		
34	HV	Zone substations switchgear	3.3/6.6/11/22kV CB (pole mounted)	-	-	-	94.67%	5.33%	-	-	3	3	-		
35															

Asset condition at start of planning period (percentage of units by grade)												
	Voltage	Asset category	Asset class	Units	H1	H2	H3	H4	H5	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
36				No.								
37				km								
38				No.								
39	HV	Zone Substation Transformer	Zone Substation Transformers	km	0.02%	2.44%	19.51%	68.29%	9.76%		4	2.44%
40	HV	Distribution Line	Distribution OH Open Wire Conductor	km		22.23%	0.03%	76.09%	1.41%	0.22%	2	1.59%
41	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km							N/A	
42	HV	Distribution Line	SWER conductor	km	0.11%	34.78%	0.03%	64.67%	0.35%	0.05%	2	0.10%
43	HV	Distribution Cable	Distribution UG XLPE or PVC	km	0.14%	0.69%		8.01%	8.01%	83.15%	2	0.83%
44	HV	Distribution Cable	Distribution UG PILC	km							N/A	
45	HV	Distribution Cable	Distribution Submarine Cable	km							N/A	
46	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.		4.55%		63.64%	30.91%	0.91%	3	4.55%
47	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.				80.00%	20.00%		3	
48	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.		0.60%	0.01%	83.53%	15.81%	0.05%	2	0.60%
49	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.				90.41%	9.59%		3	
50	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.		1.87%		69.67%	29.75%	0.63%	3	
51	HV	Distribution Transformer	Pole Mounted Transformer	No.				86.80%	11.33%		2	1.87%
52	HV	Distribution Transformer	Ground Mounted Transformer	No.		0.88%		89.83%	9.79%		3	3.77%
53	HV	Distribution Substations	Voltage regulators	No.		2.97%		80.20%	16.83%		3	
54	HV	Distribution Substations	Ground Mounted Substation Housing	No.				44.44%	55.56%		3	
55	LV	LV Line	LV OH Conductor	km	0.30%	30.36%	0.06%	63.50%	1.25%	4.53%	2	6.13%
56	LV	LV Cable	LV UG Cable	km				3.87%	1.63%	94.50%	2	
57	LV	LV Streetlighting	LV OH/UG Streetlight circuit	km		24.00%		24.91%		51.10%	2	4.80%
58	LV	Connections	OH/UG consumer service connections	No.	0.07%		0.02%	5.52%	3.98%	90.40%	2	0.07%
59	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	6.69%	13.75%		74.35%	4.83%	0.37%	3	6.69%
60	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	10.88%	10.41%		58.95%	18.48%	1.29%	3	10.88%
61	All	Capacitor Banks	Capacitors including controls	No.				55.56%	44.44%		4	
62	All	Load Control	Centralised plant	Lot		30.77%			15.38%		3	
63	All	Load Control	Relays	No.				62.41%	11.38%	26.21%	3	
64	All	Civils	Cable Tunnels	km							N/A	

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SCHEDULE 12b: REPORT ON FORECAST CAPACITY
 This schedule requires a breakdown of current and forecast capacity and utilisation for each zone substation and utilisation for each zone substation and transformer capacity. The data provided should be consistent with the information provided in this table should relate to the operation of the network in its normal steady state configuration.

sch ref

12b(i): System Growth - Zone Substations

Existing Zone Substations	Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (Type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity - 5 years (MVA)	Utilisation of Installed Firm Capacity - 5 years %	Installed Firm Capacity Constraint - 5 years (MVA)	Explanation
Adams	2.5	-	N	-	-	-	-	No constraint within 5 years	
Adams	7.0	-	N	-	-	-	-	No constraint within 5 years	
Adams	0.8	-	N	-	-	-	-	No constraint within 5 years	
Adams	8.5	10 N-1	N	3	85%	10	85%	No constraint within 5 years	
Adams	5.6	-	N	6	-	-	-	Transformer	
Adams	3.4	-	N	1	-	-	-	No constraint within 5 years	
Adams	1.5	-	N	1	-	-	-	No constraint within 5 years	
Adams	-	-	N	-	-	-	-	Transformer out of service. Site currently operating as a switching station.	
Adams	2.5	-	N	0	-	3	80%	No constraint within 5 years	
Adams	0.9	-	N	0	-	-	-	No constraint within 5 years	
Adams	3.1	-	N	1	-	-	-	No constraint within 5 years	
Adams	5.6	-	N	1	-	-	-	No constraint within 5 years	
Adams	2.6	-	N	1	-	-	-	No constraint within 5 years	
Adams	4.2	-	N	1	-	-	-	No constraint within 5 years	
Adams	1.4	-	N	1	-	-	-	No constraint within 5 years	
Adams	0.5	-	N	1	-	-	-	No constraint within 5 years	
Adams	2.0	-	N	1	-	-	-	No constraint within 5 years	
Adams	0.2	-	N	-	-	-	-	No constraint within 5 years	
Adams	14.9	10 N-1	N	-	149%	10	150%	Transformer	Constraint managed through agreement with major customer
Adams	0.3	-	N	-	-	-	-	No constraint within 5 years	
Adams	4.9	-	N	1	-	-	-	No constraint within 5 years	
Adams	2.1	-	N	-	-	-	-	No constraint within 5 years	
Adams	12.3	15 N-1	N	3	82%	15	91%	No constraint within 5 years	
Adams	0.2	-	N	-	-	-	-	No constraint within 5 years	
Adams	0.6	-	N	1	-	-	-	No constraint within 5 years	
Adams	0.9	5 N-1	N	2	98%	5	100%	No constraint within 5 years	
Adams	2.1	-	N	1	-	-	-	No constraint within 5 years	
Adams	3.0	3 N-1	N	1	118%	3	118%	Transformer	
Adams	5.9	10 N-1	N	4	89%	10	89%	No constraint within 5 years	

* Extend forecast capacity table as necessary to disclose all capacity by each zone substation

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SCHEDULE 12C: REPORT ON FORECAST NETWORK DEMAND

This scheduler requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch.ref

12c(i): Consumer Connections

Number of ICPS connected in year by consumer type

Consumer types defined by Edg*

Standard Connection: Urban	44	44	44	44	44
Standard Connection: Rural	92	92	92	92	92
Standard Connection: Remote Rural	9	9	9	9	9
Non-Standard Customer Connection	-	-	1	-	-

Connections total

*Include additional rows if needed

Distributed generation

Number of connections

Capacity of distributed generation installed in year (MVA)

for year ended	Number of connections					
	Current Year CY 31 Mar 19	CY+1 31 Mar 20	CY+2 31 Mar 21	CY+3 31 Mar 22	CY+4 31 Mar 23	CY+5 31 Mar 24
	39	44	44	44	44	44
	82	92	92	92	92	92
	-	-	-	-	-	-
	-	-	1	-	-	-
	130	145	146	145	145	145

	8	9	10	10	10	11
	0.034	0.038	0.043	0.043	0.043	0.047

12c(ii) System Demand

Maximum coincident system demand (MW)

plus Distributed generation output at HV and above

less Net transfers to (from) other EDBs at HV and above

Demand on system for supply to consumers' connection points

Electricity volumes carried (GWh)

less Electricity exports to GPPs

plus Electricity supplied from distributed generation

less Net electricity supplied to (from) other EDBs

Electricity entering system for supply to ICPS

less Total energy delivered to ICPS

Losses

Load factor

Loss ratio

for year ended	Current Year CY					
	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24
	64	67	71	72	73	73
	17	12	12	12	12	12
	81	80	84	84	85	86
	-	-	-	-	-	-
	81	80	84	84	85	86

	323	341	360	362	365	368
	5	5	5	5	5	6
	84	84	84	84	84	84
	(12)	(12)	(12)	(12)	(13)	(13)
	415	431	451	453	456	459
	386	403	422	424	427	429
	28	28	29	29	29	30

	58%	62%	62%	61%	61%	61%
	6.8%	6.5%	6.5%	6.5%	6.5%	6.5%

Company Name
The Lines Company

AMP Planning Period
1 April 2019 – 31 March 2029

Network / Sub-network Name

SCHEDULE 12d: REPORT FORECAST INTERRUPTIONS AND DURATION

This schedule requires a forecast of SAIFI and SAIDI for disclosure and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumed impact of planned and unplanned SAIFI and SAIDI on the expenditures forecast provided in Schedule 11a and Schedule 11b.

sch ref	for year ended	Current Year CY					
		31 Mar 19	CY+1 31 Mar 20	CY+2 31 Mar 21	CY+3 31 Mar 22	CY+4 31 Mar 23	CY+5 31 Mar 24
8		58.7	62.2	65.6	69.0	72.3	75.7
9		175.5	172.0	168.6	165.2	161.9	158.5
10							
11	Class B (planned interruptions on the network)						
12	Class C (unplanned interruptions on the network)						
13							
14	Class B (planned interruptions on the network)	0.87	0.92	0.97	1.02	1.07	1.12
15	Class C (unplanned interruptions on the network)	2.60	2.55	2.50	2.45	2.40	2.35

Company Name AMP Planning Period Asset Management Standard Applied							
The Lines Company 1 April 2019 – 31 March 2020							
Question No.	Function	Question	Score	Evidence – Summary	User Guidance	Why	
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	2.5	An asset management policy document has been approved by the board, and is included in TLC 2018 AMP to be accessible by all staff. The asset management policy has been discussed with the relevant employees and stakeholders during its development phase and TLC is on the journey to communicate their asset management policy widely and effectively to all relevant persons to ensure these persons are aware of their asset related obligations.	AMP 2018	Widely used AM practice standards require an organisation to document, authorise and communicate its asset management policy (eg. as required in PAS 55 para 4.2). A key pre-requisite of any robust policy is that the organisation's top management must be seen to endorse and fully support it. Also vital to the effective implementation of the policy, it is to tell the appropriate people of its content and their obligations under it. Where an organisation outsources some of its asset-related activities, then these people and their organisations must equally be made aware of the policy's content. Also, there may be other stakeholders, such as regulatory authorities and shareholders who should be made aware of it.	Record/document information The organisation's asset management policy, its organisational strategic plan, documents indicating how the asset management policy was based upon the needs of the organisation and evidence of communication.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	2.5	TLC's Asset Management Objectives approved by the board are in line with their Asset Management Policy. The Asset Management Objectives define overall strategies and methodologies in the linkages with Leadership, Asset Planning, Business Process and Continual Improvement. The Asset Management Strategy is consistent with the risk management strategy, TLC business's policy, asset life cycle strategy and asset risk management strategy.	AMP 2018	In setting an organisation's asset management strategy, it is important that it is consistent with any other policies and strategies that the organisation has and has taken into account the requirements of relevant stakeholders. This question examines to what extent the asset management strategy is consistent with other organisational policies and strategies (eg. as required by PAS 55 para 4.3.1 b) and has taken account of stakeholder requirements as required by PAS 55 para 4.3.1 c). Generally, this will take into account the same policies, strategies and stakeholder requirements as covered in drafting the asset management policy but at a greater level of detail.	The organisation's asset management strategy document and other related organisational policies and strategies. Other than the organisation's strategic plan, these could include those relating to health and safety, environmental, etc. Results of stakeholder consultation.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	2.5	TLC has defined a detailed process on asset life cycle management in their 2018 AMP. The capital project planning and operations and maintenance strategy take account of the lifecycle of key asset types. TLC is currently developing their Strategy Asset Management Plan with a defined asset life cycle management strategy for each.	AMP 2018	Good asset stewardship is the hallmark of an organisation compliant with widely used AM standards. A key component of this is the need to take account of the lifecycle of the assets, asset types and asset systems. (For example, this requirement is recognised in 4.5.1 g) of PAS 55). This question explores what an organisation has done to take account of its asset management strategy.	The organisation's documented asset management strategy and supporting working documents.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	2	The AMP is reviewed and updated annually and the outputs from the preceding stages that result in projects in year 4 are consolidated and assessed at a management and board level. The confirmed projects are listed in BASIX which are reviewed fortnightly for progress of work delivery. TLC is in progress of completing a document for the short-term project plan to demonstrate the plan has covered all life cycle activities and aligned to asset management objectives.		The asset management strategy need to be translated into practical plans so that all parties know how the objectives will be achieved. The development of plan(s) will need to identify the specific tasks and activities required to optimize costs, risks and performance of the assets and/or asset system(s), when they are to be carried out and the resources required.	The organisation's asset management plan(s).

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EBS's self assessment of the maturity of its asset management practices.

<p style="text-align: center;">Company Name: The Lines Company AMP Planning Period: 1 April 2019 – 31 March 2020 Asset Management Standard Applied:</p>							
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	The organisation does not have a documented asset management policy.	The organisation has an asset management policy, but it has not been authorised by top management, or it is not influencing the management of the assets.	The organisation has an asset management policy, which has been authorised by top management, but it has had limited circulation. It may be in use to influence development of strategy and planning but its effect is limited.	The asset management policy is authorised by top management, is widely and effectively communicated to all relevant employees and stakeholders, and used to make these persons aware of their asset related obligations.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	The organisation has not considered the need to ensure that its asset management strategy is appropriately aligned with the organisation's other organisational policies and strategies or with stakeholder requirements. OR The organisation does not have an asset management strategy.	The need to align the asset management strategy with other organisational policies and strategies as well as stakeholder requirements is understood and work has started to identify the linkages or to incorporate them in the drafting of asset management strategy.	Some of the linkage between the long term strategy and other organisational policies, strategies and stakeholder requirements are defined but the work is fairly well advanced but still incomplete.	All linkages are in place and evidence is available that the asset management strategy is consistent with its other organisational policies and strategies. The organisation has also identified and considered the requirements of relevant stakeholders.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	The organisation has not considered the need to ensure that its asset management strategy is produced with due regard to the lifecycle of the assets, asset types or asset systems that it manages. OR The organisation does not have an asset management strategy.	The need is understood, and the organisation is drafting its asset management strategy to address the lifecycle of its assets, asset types and asset systems.	The long term asset management strategy takes account of the lifecycle of some, but not all, of its assets, asset types and asset systems.	The asset management strategy takes account of the lifecycle of all of its assets, asset types and asset systems.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	The organisation does not have an identifiable asset management plan(s) covering asset systems and critical assets.	The organisation has asset management plan(s) but they are not aligned with the asset management strategy and objectives and do not take into consideration the full asset life cycle (including asset creation, acquisition, enhancement, utilisation, maintenance decommissioning and disposal).	The organisation is in the process of putting in place comprehensive, documented asset management plan(s) that cover all life cycle activities, clearly aligned to asset management objectives, and the asset management strategy, management objectives across all life cycle phases.	Asset management plan(s) are established, documented, implemented and maintained for asset systems and critical assets to achieve the asset management strategy and asset management objectives across all life cycle phases.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name AMP Planning Period Asset Management Standard Applied						
The Lines Company 1 April 2019 – 31 March 2020						
Question No.	Function	Question	Score	Evidence – Summary	User Guidance	Why
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	3	At the start of each financial year AMP is accessible from TLC's website distributed to TLC's Trust shareholders, Board of Directors, Finance Team, Communications Team, Asset and Engineering Teams, Network Services Team and all other relevant staff. Electronic copies of the AMP are available for all employees on TLC's Network. An electronic copy of the AMPs available on the TLC website for customers and members of the public, bound paper copies are available by request. TLC keeps an up to date record of all distributed AMPs.	Designated asset management accountabilities can be found in the 2019 AMP	Plans will be ineffective unless they are communicated to all those, including contracted suppliers and those who undertake enabling functions). The plan(s) need to be communicated in a way that is relevant to those who need to use them.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	2	Asset management accountabilities are designated throughout the organization from the top management to asset engineers. TLC is in the process of more formally documenting responsibilities with adequate detail to enable delivery of actions in the strategy asset management plan.	Designated asset management accountabilities can be found in the 2019 AMP	The implementation of asset management plan(s) relies on (1) actions being clearly identified, (2) an owner allocated and (3) that owner having sufficient delegated responsibility and authority to carry out the work required. It also requires alignment of actions across the organisation. This question explores how well the plan(s) set out responsibility for delivery of asset plan actions.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	2.5	TLC recognises there is an issue with insufficient staff numbers and is in the process to identify the required resources both internal and external to ensure that the asset management plan can be implemented in an efficient and cost-effective manner. TLC has planned to increase the internal resource significantly by hiring more new staff and is also looking for competent contractors for outsourcing work. TLC has started addressing the resource and timescale required realistically in asset management planning and identifying changes needed to the company's business process.	Section 3.7 in 2019 AMP	It is essential that the plan(s) are realistic and can be implemented, which requires appropriate resources to be available and enabling mechanisms in place. This question explores how well this is achieved. The plan(s) not only need to consider the resources directly required and timescales, but also the enabling activities, including for example, training requirements, supply chain capability and procurement timescales.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for dealing with responding to incidents and ensuring continuity of critical asset management activities?	2	TLC has an event plan in place and is in the process of continually developing and updating the plan and establishing Emergency Management Framework based on Civil Defence Co-ordinated Incident Management System (CIMS). The Emergency Management framework identifies a Duty Manager who is able to act as Incident Controller during an emergency event.	Section 3.7 in 2019 AMP	The manager with responsibility for developing emergency plan(s). The organisation's risk assessments and procedures for dealing with incidents and emergency situations, including the communication to, and involvement of, external agencies. This question assesses if, and how well, these plan(s) triggered, implemented and resolved in the event of an incident. The plan(s) should be appropriate to the level of risk as determined by the organisation's risk assessment methodology. It is also a requirement that relevant personnel are competent and trained.
						The organisation's plan(s) and procedure(s) for dealing with emergencies. The organisation's risk assessments and risk registers.

Company Name: The Lines Company AMP Planning Period: 1 April 2019 – 31 March 2020 Asset Management Standard Applied:							
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	The organisation does not have plan(s) or their distribution is limited to the authors.	The plan(s) are communicated to some of those responsible for delivery of the plan(s). OR Communicated to those responsible for delivery is either irregular or ad-hoc.	The plan(s) are communicated to most of those responsible for delivery but there are weaknesses in identifying relevant parties resulting in incomplete or inappropriate communication. The organisation recognises improvement is needed as it working towards resolution.	The plan(s) are communicated to all relevant employees, stakeholders and contracted service providers to a level of detail appropriate to their participation or business interests in the delivery of the plan(s) and there is confirmation that they are being used effectively.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	The organisation has not documented responsibilities for delivery of asset plan actions.	Asset management plan(s) inconsistently document responsibilities for delivery of plan actions and activities and/or responsibilities and/or delegation level inadequate to ensure effective delivery and/or contain misalignments with organisational accountability.	Asset management plan(s) consistently document responsibilities/authority levels are inappropriate/ inadequate, and/or there are misalignments within the organisation.	Asset management plan(s) consistently document responsibilities for the delivery of actions and there is adequate detail to enable delivery of actions. Designated responsibility and authority for achievement of asset plan actions is appropriate.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate resources are available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	The organisation has not considered the arrangements needed for the effective implementation of plan(s).	The organisation recognises the need to ensure appropriate arrangements are in place for the implementation of asset management plan(s) and is in the process of devising an appropriate approach for achieving this.	The organisation has arrangements in place for the implementation of asset management plan(s) and realistically address the resources and timescales required, and any changes needed to functional policies, standards, processes and the asset management information system.	The organisation's arrangements fully cover all the requirements for the efficient and cost effective implementation of asset management plan(s) and realistically address the resources and timescales required, and any changes needed to functional policies, standards, processes and the asset management information system.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and ensuring continuity of critical asset management activities?	The organisation has not considered the need to establish plan(s) and procedure(s) to identify and respond to incidents and emergency situations.	The organisation has some ad-hoc arrangements to deal with incidents and emergency situations, but these have been developed on a reactive basis in response to specific events that have occurred in the past.	Most credible incidents and emergency situations are identified. Either appropriate plan(s) and procedure(s) are inadequate. Training/ external alignment may be incomplete.	Appropriate emergency plan(s) and procedure(s) are in place to respond to credible incidents and manage continuity of critical asset management activities consistent with policies and asset management objectives. Planning and external agency alignment is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name AMP Running Period Asset Management Standard Applied						
The Lines Company 1 April 2019 – 31 March 2020						
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)						
Question No.	Function and responsibilities	Question	Score	Evidence – Summary	User Guidance	Why
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	3	TLC is going through a restructuring process. New roles including General Manager and Strategy Engineer are established and appointed. The appointed persons have full responsibility of planning and delivering the asset management strategy, objectives and plan(s). They have been given the necessary authority to achieve the relevant asset management objectives.	Section 3 in TLC 2018 AMP	In order to ensure that the organisation's assets and asset systems deliver the requirements of the asset management policy, strategy and objectives responsibilities need to be allocated to appropriate people who have the necessary authority to fulfil their responsibilities. (This question relates to the organisation's assets eg. para b), 3.4.4.1 of PAS 55, planning therefore the asset management contained in para b), 3.4.4.1 of PAS 55).
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	2.5	In parallel to alignment of the asset management system with ISO 50000, TLC is establishing a process to determine the required resources for asset management needs. The resource assessment process is expected to effectively interact to the relevant elements of the asset management system.		Optimal asset management requires top management to ensure sufficient resources are available. In this context the term 'resources' includes: manpower, materials, funding and service provider support.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	3	TLC's top management holds a monthly meeting to communicate asset management business to all relevant parts of the organisation and the monthly meeting widely covers all aspects of asset management including work in progress, changing work in progress, requirements, budget, asset condition and risk, inspection, outages and solutions. TLC's top management is very reachable to the asset management team for communication apart from the monthly meetings.	Monthly meeting	Widely used AM practice standards require an organisation to communicate the importance of meeting its asset management requirements such that personnel fully understand, take ownership of, and are fully engaged in the delivery of the asset management requirements (eg. PAS 55 s 4.4.1 g).
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	3	TLC has developed Contractor Management System which focuses on external contractor management to ensure quality delivery of outsourced work from planning to close out and it also has set out the requirements for the internal contractor on induction, competence training and assessment, performance monitoring, and audit and review.	New Contractor Management System	Where an organisation chooses to outsource some of its asset management activities, the organisation must ensure that these outsourced process(es) are under appropriate control to ensure that all the requirements of widely used AM standards (eg. PAS 55) are in place, and the asset management policy, strategy objectives and plan(s) are delivered. This includes ensuring capabilities and resources across a time span aligned to life cycle management. The organisation must put arrangements in place to control the outsourced activities, whether it be external providers or to other in-house departments. This question explores what the organisation does in this regard.
						Evidence that managers with responsibility for the delivery of asset management policy, strategy, objectives and plan(s) have been appointed and have assumed their responsibilities. Evidence may include the organisation's documents relating to its asset management system, organisational charts, job descriptions of post-holders, annual targets objectives and personal development plan(s) of post-holders as appropriate. Evidence demonstrating that asset management plan(s) and/or the process(es) for asset management plan implementation consider the provision of adequate resources in both the short and long term. Resources include funding, materials, equipment, services provided by third parties and personnel (internal and service providers) with appropriate skills, competencies and knowledge. Evidence of such activities as road shows, written bulletins, workshops, team talks and management walkabouts would assist an organisation to demonstrate it is meeting this requirement of PAS 55. The organisation's arrangements that detail the compliance required of the outsourced activities. For example, this could form part of a contract or service level agreement between the organisation and the suppliers of its outsourced activities. Evidence that the organisation has demonstrated to itself that it has assurance of compliance of outsourced activities.

Company Name AMP Planning Period Asset Management Standard Applied The Lines Company 1 April 2019 – 31 March 2020						
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)						
Question No.	Function and responsibilities	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	Top management has not considered the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management understands the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management has appointed an appropriate person to ensure the assets deliver the requirements of the asset management strategy, objectives and plan(s) but their areas of responsibility are not fully defined and/or they have insufficient delegated authority to fully execute their responsibilities.	The appointed person or persons have full responsibility for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s). They have been given the necessary authority to achieve this.
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	The organisation's top management has not considered the resources required to deliver asset management.	The organisation's top management understands the need for sufficient resources in place to ensure this is the case.	A process exists for determining what resources are required for its asset management activities and in most cases these are available but in some instances resources remain insufficient.	An effective process exists for determining the resources needed for asset management and sufficient resources are available. It can be demonstrated that resources are matched to asset management requirements.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	The organisation's top management has not considered the need to communicate the importance of meeting asset management requirements.	The organisation's top management understands the need to communicate the importance of meeting its asset management requirements but does not do so.	Top management communicates the importance of meeting its asset management requirements but only to parts of the organisation.	Top management communicates the importance of meeting its asset management requirements to all relevant parts of the organisation.
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	The organisation has not considered the need to put controls in place.	The organisation controls its outsourced activities on an ad-hoc basis, with little regard for ensuring the compliant delivery of the organisational strategic plan and/or its asset management policy and strategy.	Controls systematically considered but currently only provide for the compliant delivery of some, but not all, aspects of the organisational strategic plan and/or its asset management policy and strategy. Gaps exist.	Evidence exists to demonstrate that outsourced activities are appropriately controlled to provide for the compliant delivery of the organisational strategic plan, asset management policy and strategy, and that these controls are integrated into the asset management system.
						Maturity Level 4 The organisation's processes(s) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name AMP Planning Period Asset Management Standard Applied		The Lines Company 1 April 2019 – 31 March 2029	
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)			
Question No.	Function	Question	Score
48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	2
		Evidence – Summary TLC is in the process of reviewing the resource requirement to meet asset management needs and enhancing the process to plan, provide and record the training necessary to achieve the competencies.	
		User Guidance There is a need for an organisation to demonstrate that it has considered what resources are required to develop and implement its asset management system. There is also a need for the organisation to demonstrate that it has assessed what development plan(s) are required to provide its human resources with the skills and competencies to develop and implement its asset management systems. The timescales over which the plan(s) are relevant should be stated. The asset management strategy considers 5, 10 and 15 year time scales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	2
		Evidence – Summary TLC uses the understandings gained from risk assessments and the performance of risk control strategies to identify the competency requirements and then plan, provide and record the training necessary to achieve the competency level. TLC supports personal development and training of all employees.	
		User Guidance Widely used AM standards require that organisations to undertake a systematic identification of the asset management awareness and competencies required at each level and function within the organisation. Once identified the training required to provide the necessary competencies should be planned for delivery in a timely and systematic way. Any training provided must be recorded and maintained in a suitable format. Where an organisation has contracted service providers in place then it should have a means to demonstrate that this requirement is being met for their employees. (Fig. PAS 55 refers to frameworks suitable for identifying competency requirements)	
50	Training, awareness and competence	How does the organisation ensure that personnel undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	2.5
		Evidence – Summary TLC is in the process of defining requirements for asset management which includes to enhance the process to assess staff competency level and provide required training to meet the asset management requirement.	
		User Guidance A critical success factor for the effective development of an asset management system is the competence of the individuals undertaking the activities. Organisations should have effective means in place for ensuring the competence of employees to carry out their designated asset management functions). Where an organisation has contracted service providers undertaking elements of its asset management system then the organisation shall assure itself that the outsourced service provider also has suitable arrangements in place to manage the competencies of its employees. The organisation should ensure that the individual and corporate competencies it requires are in place and actively monitor, develop and maintain an appropriate balance of these competencies.	
		Why There is a need for an organisation to demonstrate that it has considered what resources are required to develop and implement its asset management system. There is also a need for the organisation to demonstrate that it has assessed what development plan(s) are required to provide its human resources with the skills and competencies to develop and implement its asset management systems. The timescales over which the plan(s) are relevant should be stated. The asset management strategy considers 5, 10 and 15 year time scales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	
		Who Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	
		Record/document information Evidence of analysis of future work load plan(s) in terms of human resources. Documents containing analysis of the organisation's own direct resources and contractors resource capability over suitable timescales. Evidence, such as minutes of meetings, that suitable management forums are monitoring human resource development plan(s). Training plan(s), personal development plan(s), contract and service level agreements.	
		Why Widely used AM standards require that organisations to undertake a systematic identification of the asset management awareness and competencies required at each level and function within the organisation. Once identified the training required to provide the necessary competencies should be planned for delivery in a timely and systematic way. Any training provided must be recorded and maintained in a suitable format. Where an organisation has contracted service providers in place then it should have a means to demonstrate that this requirement is being met for their employees. (Fig. PAS 55 refers to frameworks suitable for identifying competency requirements)	
		Who Managers, supervisors, persons responsible for developing training programmes. Staff responsible for contract service agreements. HR staff and those responsible for recruitment.	
		Record/document information Evidence of a competency assessment framework that begins with identifying the skills, such as the asset management related competencies Required Framework (Version 2.0), National Occupational Standards for Management and Leadership, UK Standard for Professional Engineering Competence, Engineering Council, 2005.	

The Lines Company AMP Planning Period 1 April 2019 – 31 March 2020 Asset Management Standard Applied							
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	
48	Training, awareness and competence	How does the organisation develop plans for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plans?	The organisation has not recognised the need for assessing human resources requirements to develop and implement its asset management system.	The organisation has recognised the need to assess its human resources requirements and to develop a plan(s). There is limited recognition of the need to align these with the development and implementation of its asset management system.	The organisation has developed a strategic approach to aligning competencies and human resources to the asset management system including the asset management plan but the work is incomplete or has not been consistently implemented.	The organisation can demonstrate that plan(s) are in place and effective in matching competencies and capabilities to the asset management system including the plan for both internal and contracted activities. Plans are reviewed integral to asset management system process(es).	Maturity Level 4 The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	The organisation does not have any means in place to identify competency requirements.	The organisation has recognised the need to identify competency requirements and then plan, provide and record the training necessary to achieve the competencies.	The organisation is the process of identifying competency requirements aligned to the asset management plan(s) and then plan, provide and record appropriate training. It is incomplete or inconsistently applied.	Competency requirements are in place and aligned with asset management plan(s). Plans are in place and effective in providing the training necessary to achieve the competencies. A structured means of recording the competencies achieved is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
50	Training, awareness and competence	How does the organisation ensure that persons under its direct management have an appropriate level of competence in terms of education, training or experience?	The organisation has not recognised the need to assess the competence of persons) under its direct management related activities.	Competency of staff undertaking asset management related activities is not managed formally and there are no documented formal requirements for legal compliance and safety management.	The organisation is in the process of putting in place a means for assessing the competence of persons undertaking asset management related activities including contractors. There are gaps and inconsistencies.	Competency requirements are identified and assessed for all persons undertaking asset management related activities. Requirements are reviewed and staff reassessed at appropriate intervals aligned to asset management requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

<p style="text-align: center;">Company Name AMP Planning Period Asset Management Standard Applied</p> <p style="text-align: center;">The Lines Company 1 April 2019 – 31 March 2020</p>						
Question No.	Function	Question	Score	Evidence – Summary	User Guidance	Why
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	2	TLC provides its shareholders with regular updates via the Board, which include information on non-financial performance. Annual reports comprising of a report from the Board of Directors covering the operations for the reporting period and consolidated financial statements for the reporting period are delivered to the shareholders. TLC also supplies its shareholders with auditors' report on the financial statement and the performance targets (together with other measures by which the performance of the company has been judged in relation to the Company's objectives). Furthermore TLC provides its stakeholders with the annual capital expenditure budget adopted by the board. Asset Management Plans are publicly available on the TLC website with hard copies	Statement Of Corporate Intent	Widely used AM practice standards require that pertinent asset management information is effectively communicated to and from employees and other stakeholders including contracted service providers. Pertinent information refers to information required in order to effectively and efficiently comply with applicable asset management strategy, plans and objectives. This will include the communication of the asset management policy, asset performance information, and planning information as appropriate to contracts.
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	2.5	A system chart with the main elements and the interactions between the main aspects of the asset management process identified. The chart of the elements such as asset life cycle management, capital project strategy and maintenance process are provided in the 2018 AMP. TLC is in the process of developing the strategic asset management plan to document the comprehensive details of the asset management systems.	Section 3 in 2018 AMP	Widely used AM practice standards require an organisation maintain up to date documentation that ensures that its asset management systems fit, the systems organisation has in place to meet the needs of its stakeholders and maintenance of up to date documentation of the asset management system requirements specified throughout 4 of PAS 55).
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	2.5	Asset Management Information System is a key element of TLC's Asset Management System and the interactions between the system and other elements are established. TLC uses BASIX as the main asset management information system which hold information to support asset management planning and delivery. The system is designed to ensure maintenance planning and asset condition and risk assessment. TLC is on a journey to make a continual improvement of their asset management information system to meet a requirement of support a continual improvement of asset management practice.		Effective asset management requires appropriate information to be available. Widely used AM standards therefore require the organisation to identify the asset management information it requires in order to support its asset management system. Some of the information required may be held by suppliers. The maintenance and development of asset management information systems is a poorly understood specific activity that is akin to IT. This information is held by a group of people. This group of people provides some indications as to whether the capability is available and applied. None To be effective, an asset information management system requires the mobilisation of technology, people and process(es) that create, secure, make available and destroy the information required to support the asset management system.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	2.5	The data in Basix is stored in various SQL server tables that are viewed and written to by the various Basix user interface forms. Reports are run in SQL to pick up variances between actual data and the system held data. Control of the database is maintained by assigning individuals different levels of authority. Mandatory field are set up in the Basix database, this means that data cannot be entered into the database these fields must be populated before the program allows you to save the asset. All asset changes are tracked through an audit tracker that is built into the database.		The response to the questions is progressive. A higher scale cannot be awarded without achieving the requirements of the lower scale. This question explores how the organisation ensures that information management meets widely used AM practice requirements (eg. s 4.4.6 (b), (c) and (d) of PAS 55).
						<p>Top management and senior management representative(s), employee's representative(s), employee's trade union representative(s); contracted service provider management and employee representative(s); representative(s) from the firm. Key stakeholder representative(s).</p> <p>The management team that has overall responsibility for asset management. Managers engaged in asset management activities.</p> <p>The documented information describing the main elements of the asset management system (process(es) and their interaction).</p> <p>The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Operations, maintenance and engineering managers</p> <p>The management team that has overall responsibility for asset management. Users of the organisational information systems.</p> <p>The asset management information system, together with the policies, procedure(s), improvement initiatives and audits regarding information controls.</p>

<p style="text-align: center;">Company Name The Lines Company AMP Planning Period 1 April 2019 – 31 March 2029 Asset Management Standard Applied</p>						
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)						
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	The organisation has not recognised the need to formally communicate any asset management information.	There is evidence that the pertinent asset management information to be shared along with those it with is being determined.	The organisation has determined pertinent information and relevant parties. Some effective two way communication is in place but as yet not all relevant parties are clear on their roles and responsibilities with respect to asset management information.	Two way communication is in place between all relevant parties, ensuring that information is effectively communicated to match the requirements of asset management strategy, plans) and process(es). Pertinent asset information requirements are regularly reviewed.
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	The organisation has not established documentation that describes the main elements of the asset management system.	The organisation is aware of the need to put documentation in place and is in the process of determining how to document the main elements of its asset management system.	The organisation in the process of documenting its asset management system and has documentation in place that describe some, but not all, of the main elements of its asset management system and their interaction.	The organisation has established documentation that comprehensively describes all the main elements of its asset management system and the interactions between them. The documentation is kept up to date.
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	The organisation has not considered what asset management information is required.	The organisation is aware of the need to determine in a structured manner what its asset information system should contain in order to support its asset management system and is in the process of deciding how to do this.	The organisation has developed a structured process to determine what its asset information system should contain in order to support its asset management system and has commenced implementation of the process.	The organisation has determined what its asset information system should contain in order to support its asset management system. The requirements relate to the whole life cycle and cover information originating from both internal and external sources.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	There are no formal controls in place or controls are extremely limited in scope and/or effectiveness.	The organisation is aware of the need for effective controls and is in the process of developing an appropriate control process(es).	The organisation has developed a controls that will ensure the data held is of the requisite quality and accuracy and is consistent and is in the process of implementing them.	The organisation has effective controls in place that ensure the data held is of the requisite quality and accuracy and is consistent. The controls are regularly reviewed and improved where necessary.
						<p>Maturity Level 4</p> <p>The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard.</p> <p>The assessor is advised to note in the Evidence section why this is the case and the evidence seen.</p>
						<p>Maturity Level 4</p> <p>The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard.</p> <p>The assessor is advised to note in the Evidence section why this is the case and the evidence seen.</p>
						<p>Maturity Level 4</p> <p>The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard.</p> <p>The assessor is advised to note in the Evidence section why this is the case and the evidence seen.</p>

Company Name AMP Planning Period Asset Management Standard Applied						
The Lines Company 1 April 2019 – 31 March 2020						
Question No.	Function	Question	Score	Evidence – Summary	User Guidance	Why
64	Information management	How has the organisation's information system ensured its needs?	2.5	TLC's asset management information system is reviewed and aligned with current asset management requirements. It also aligns with the increasing regulatory and safety management requirements. TLC has included a budget for information system upgrades and maintenance. The asset management information system is regularly reviewed and improved when necessary.		Widely used AM standards need not be prescriptive about the form of the asset management information system, but simply require that the asset management information system is appropriate to the organisation's needs, can be effectively used and can supply information which is consistent and of the requisite quality and accuracy.
69	Risk management process(es)	How has the organisation documented process(es) and/or procedures for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	2.5	TLC has introduced a Common Methodology to assess asset related risks. The principles and process are documented in Asset Lifecycle Management and three models have been developed to assess and forecasting risk for distribution poles, conductors, and crossarms. The advanced asset risk modelling is to support to fully develop a risk based long term investment plan to determine the optimal timing for asset replacement.		Risk management is an important foundation for proactive asset management. Its overall purpose is to understand the cause, effect and likelihood of adverse events occurring, to optimally manage risks to an acceptable level, and to provide an audit trail for the management of risks. Widely used standards require the organisation to have process(es) and/or procedures in place that set out how the organisation identifies and assesses asset and asset management related risks. The risks have to be considered across the four phases of the asset lifecycle (eg. para 4.3.3 of PAS 55).
79	Use and maintenance of risk information	How does the organisation ensure that the results of risk assessments are used for the identification of adequate resources and training and competency needs?	2	TLC reviews and analyses the results of the risk assessment, and the results are then used to help identify the resources, training and competency requirements to achieve the asset management strategy. TLC believes on-going monitoring is important to ensure staff are competent to complete assigned tasks.		The top management team in conjunction with the organisation's senior risk management representatives. There may also be input from the organisation's Safety, Health and Environment team Staff who carry out risk identification and assessment. Evidence of agendas and minutes from risk management meetings. Evidence of feedback in to process(es) and/or procedure(s) as a result of incident investigation(s). Risk registers and assessments.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	2	The Asset Management Policy identifies TLC's legal, regulatory and statutory requirements. It also identifies the regulatory compliance documentation that must be prepared and published by the asset and engineering team. Electronic copies of TLC's regulatory documents are available on the TLC website and bound paper copies are available by request.		Staff responsible for risk assessment and those responsible for developing and approving resource requirements for training and development are part of the organisation's Safety, Health and Environment team. Top management. The organisation's regulatory team. The organisation's legal team or advisors. The management team with overall responsibility for the asset management system. The organisation's health and safety team or advisors. The organisation's policy making team.

Company Name AMP Planning Period Asset Management Standard Applied							
The Lines Company 1 April 2019 – 31 March 2020							
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)							
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	The organisation has not considered the need to determine the relevance of its management information system. At present there are major gaps between what the information system provides and the organisations needs.	The organisation understands the need to ensure its asset management information system is relevant to its needs and is determining an appropriate means by which it will achieve this. At present there are significant gaps between what the information system provides and the organisations needs.	The organisation has developed and is implementing a process to ensure its asset management information system is relevant to its needs. Gaps between what the information system provides and the organisations needs have been identified and action is being taken to close them.	The organisation's asset management information system aligns with its asset management requirements. Users can confirm that it is relevant to their needs.	The organisation's processes (es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
69	Risk management processes(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	The organisation has not considered the need to document process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle.	The organisation is aware of the need to document the management of asset related risk across the asset lifecycle. The organisation has plans to formally document all relevant process(es) and procedure(s) or has already commenced this activity.	The organisation is in the process of documenting the identification and assessment of asset related risk across the asset lifecycle but it is incomplete or there are inconsistencies between approaches and a lack of integration.	Identification and assessment of asset related risk across the asset lifecycle is fully documented. The organisation can demonstrate that appropriate documented mechanisms are integrated across life cycle phases and are being consistently applied.	The organisation's processes (es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	The organisation has not considered the need to conduct risk assessments.	The organisation is aware of the need to consider the results of risk assessments and effects of risk control measures to provide input into reviews of resources, training and competency needs. Current input is typically ad-hoc and reactive.	The organisation is in the process ensuring that outputs of risk assessment are included in developing requirements for resources and training. The implementation is incomplete and there are gaps and inconsistencies.	Outputs from risk assessments are consistently and systematically used as inputs to develop resources, training and competency requirements. Examples and evidence is available.	The organisation's processes (es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	The organisation has not considered the need to identify its legal, regulatory, statutory and other asset management requirements.	The organisation identifies some its legal, regulatory, statutory and other asset management requirements, but this is done in an ad-hoc manner in the absence of a procedure.	The organisation has procedure(s) to identify its legal, regulatory, statutory and other asset management requirements, but the information is not kept up to date, inadequate or inconsistently managed.	Evidence exists to demonstrate that the organisation's legal, regulatory, statutory and other asset management requirements are identified and kept up to date. Systematic mechanisms for identifying relevant legal and statutory requirements.	The organisation's processes (es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name The Lines Company AMP Review Period 1 April 2019 – 31 March 2020 Asset Management Standard Applied						
SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)						
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3
88	Life Cycle Activities	How does the organisation establish, implement and maintain processes for the management of asset management plans (including design, modification, procurement, construction and commissioning activities)?	The organisation does not have processes in place to manage and control the implementation of asset management plans (including design, modification, procurement, construction and commissioning).	The organisation is aware of the need to have processes in place to manage and control the implementation of asset management plans (including design, modification, procurement, construction and commissioning) but currently do not have these in place (note: processes may exist but they are inconsistent/incomplete).	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plans (including design, modification, procurement, construction and commissioning).	Effective process(es) and procedure(s) are in place to manage and control the implementation of asset management plans (including design, modification, procurement, construction and commissioning). The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plans (including design, modification, procurement, construction and commissioning) are sufficient to ensure activities are carried out under specified conditions, are consistent with the organisation's strategy and control cost, risk and performance?	The organisation does not have process(es)/procedure(s) in place to control or manage the implementation of asset management plans during this life cycle phase.	The organisation is aware of the need to have process(es) and procedure(s) in place to manage and control the implementation of asset management plans during this life cycle phase and there is no mechanism for confirming they are effective and where needed modifying them.	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plans during this life cycle phase. They include a mechanism for confirming the process(es)/procedure(s) are effective and necessary carrying out modifications.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	The organisation has not considered how to monitor the performance and condition of its assets.	The organisation recognises the need for monitoring asset performance but has not implemented a process to do so. The process is incomplete, predominantly reactive and lagging. There is no linkage to asset management objectives.	The organisation is developing coherent asset performance monitoring linked to asset management objectives. Proactive measures are in place. Use is being made of leading indicators and analysis. Gaps and inconsistencies remain.	Consistent asset performance monitoring is in place to ensure management objectives are met. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
99	Investigation of failures, incidents and nonconformities	How does the organisation ensure the appropriate responsibilities and authority for the handling of asset-related failures, incidents and emergency situations and non-conformance is clear, unambiguous, understood and communicated?	The organisation has not considered the need for appropriate responsibilities and authority for the handling of asset-related failures, incidents and emergency situations and non-conformance is clear, unambiguous, understood and communicated.	The organisation understands the requirements of the process of determining how to define them.	The organisation is in the process of defining the process of determining how to define them. Alternatively there are some gaps or inconsistencies in the identified responsibilities/authorities.	The organisation has defined the appropriate process of determining how to define them. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)		Company Name AMP Planning Period Asset Management Standard Applied		The Lines Company 1 April 2019 – 31 March 2023				
Question No.	Function	Question	Score	Evidence – Summary	User Guidance	Why	Who	Record/Documented Information
105	Audit	What is the organisation doing to establish procedures for the audit of its asset management system process(es)?	2	TLC recognises and understands the need for systematic checks, especially of the effectiveness of the asset management system. Currently the asset management procedures and processes are reviewed every 12-18 months; changes to the procedures and processes are made to reflect the outcomes of the review.	Review log for processes and procedure	This question seeks to explore what the organisation has done to comply with the standard practice AM requirements (eg. the associated requirements of PAS 55:4.6.6 and its changes to 4.7).	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets for asset management. For example, Asset Management Director, Engineering Director. People with responsibility for carrying out risk assessments	The organisation's asset-related audit procedure(s). The organisation's methodology(s) by which it determined the scope and frequency of the audits. Evidence of the procedure(s) by which the audit results are presented, together with any subsequent communications. The risk assessment schedule or risk registers.
109	Corrective & Preventative Action	How does the organisation investigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of poor performance and non-conformance?	2	Investigation and mitigation of asset-related failures, incidents and emergency situations and non-conformances are carried out on an ongoing basis. Root Cause Analysis is carried out on all incidents/incident management. Procedure and the Network Access and Opening. Competency Procedure. As part of the accident/incident investigation, Root Cause Analysis is used to identify the factors that resulted in the failure, the magnitude, the location, and the timing of the harmful outcomes (consequences) of one or more incidents, or conditions need to be changed to prevent recurrence of a similar harmful outcome and to identify the factors that promote the achievement of the latter consequences.	Nonconformities and incidents are outlined in operating procedure 12 - appendix D. Root Cause Analysis is carried out on asset related failures.	Having investigated asset related failures, incidents and non-conformances, and taken action to mitigate their consequences, an organisation is required to implement preventive and corrective actions to prevent recurrence. Investigations are only useful if appropriate actions are taken as a result to assess changes to a business' risk profile and ensure that appropriate arrangements are in place should a recurrence of the incident happen. Widely used AM standards also require that necessary changes arising from investigations are made to the asset management system.	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit and incident investigation teams. Staff responsible for planning and managing corrective and preventative actions.	Analysis, records, meeting notes, and minutes, investigation reports, audit reports, improvement programmes and projects. Recorded changes to procedures (process(es) and standards). Condition and performance reviews. Maintenance reviews
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of people, assets, processes and systems across the whole life cycle?	2.5	TLC has started a journey to improve their asset management practice using ISO 55000 guideline and asset management system. The system is established based on the requirements outlined in ISO 55001. Continuous improvement is an element of the system which is interacting with asset management. The system has assessed asset health and risk systematically to identify opportunities in life cycle for selected asset types and with process will apply to more asset types.	Performance Target, Basic database improvements	Widely used AM standards have requirements to establish, implement and maintain process(es)/procedure(s) for identifying, assessing, prioritising and implementing actions to achieve continual improvement. A continual improvement requirement to demonstrate continual improvement in optimisation of cost, risk and performance/condition of assets across the life cycle. This question explores an organisation's capabilities in this area – looking for systematic improvement in the way that reviews and audit (which are separately examined).	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. Managers responsible for policy development and implementation.	Records showing systematic exploration of improved and implemented. Changes in procedures and process(es) being implemented. Evidence of working parties and research.
115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related research and practice? How do they evaluate their potential benefit to the organisation?	2.5	TLC acquires knowledge about new asset management related research and practice through research and technical papers and standards to identify benchmarks for asset management practices, as well as sending engineering staff on conferences and forums to gain knowledge about new asset management techniques and practices. TLC also actively engage in industry discussions with other networking companies, professional bodies and industry groups about what are the best asset management system, technology and practices.	R&D documents.	One important aspect of continual improvement is where an organisation looks beyond its existing capabilities to introduce new ideas, new equipment, new people, new tools, etc. An organisation which does this (eg. by the PAS 55: 4.6 standards) will be able to demonstrate that it continually seeks to expand its knowledge of all things affecting its asset management approach and to improve, evaluate them for suitability to its own organisation and implements them as appropriate. This question explores an organisation's approach to this activity.	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including various terms that require monitoring for 'change'. People that implement changes to the organisation's policy, strategy, etc. People within an organisation with responsibility for investigating, evaluating, recommending and implementing new tools and techniques, etc.	Research and development projects and records, benchmarking and participation knowledge exchange programmes. Evidence of working parties leading to knowledge acquisition. Evidence of change implementation and evaluation of new tools, and techniques linked to asset management strategy and objectives.

The Lines Company AMP Review Period 1 April 2019 – 31 March 2020 Asset Management Standard Applied							
Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	The organisation has not recognised the need to establish procedure(s) for the audit of its asset management system.	The organisation understands the need for audit procedure(s) and is determining the appropriate scope, frequency and methodology.	The organisation is establishing its audit procedure(s) but they do not yet cover all the appropriate asset related activities.	The organisation can demonstrate that its audit procedure(s) cover all the appropriate aspects of audit results. Audits are to an appropriate level of detail and consistently managed.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
109	Corrective & Preventative Action	How does the organisation investigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of non-conformance and non-conformance?	The organisation does not recognise the need to have systematic approaches to investigating corrective or preventive actions.	The organisation recognises the need to have systematic approaches to investigating corrective or preventive actions. There is ad-hoc implementation for corrective actions to investigate but not the asset management system.	The need is recognised for systematic investigation of preventive and corrective actions to address root causes of non-compliance or incidents identified by investigations, partially or inconsistently in place.	Mechanisms are consistently in place and effective for the systematic investigation of preventive and corrective actions to address root causes of non-compliance or incidents identified by investigations, compliance evaluation or audit.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of cost, asset related risk and the performance of asset management systems across the whole life cycle?	The organisation does not consider continual improvement of these factors to be a requirement, or has not considered the issue.	A continual improvement process(es) is recognised as beneficial, however it has just been started and covers partially the asset drivers.	Continuous improvement process(es) are set out and include consideration of cost risk, performance and condition for assets managed across the whole life cycle but it is not yet being systematically applied.	There is evidence to show that continuous improvement process(es) which include consideration of cost risk, performance and condition for assets managed across the whole life cycle are being systematically applied.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology or practices to evaluate their potential benefit to the organisation?	The organisation makes no attempt to seek knowledge about new asset management related technology or practices.	The organisation is inward looking, however it recognises that asset management is not sector specific and other sectors have new ideas that could apply. Ad-hoc approach.	The organisation has initiated asset management communication within its sector to share and/or identify 'new' to sector asset management practices and needs to evaluate them.	The organisation actively engages internally and externally with other asset management practitioners, professional bodies and relevant organisations to evaluate new practices and evolves its asset management activities using appropriate development.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

SCHEDULE 14A: MANDATORY EXPLANATORY NOTES ON FORECAST INFORMATION

1. This Schedule requires EDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.
2. This Schedule is mandatory – EDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a).

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts:

Inflation of 2% has been applied across the planning period commencing in year 2.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a).

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts:

Inflation of 2% has been applied across the planning period commencing in year 2.

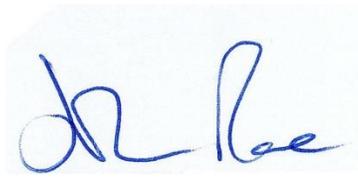
Director Certification

SCHEDULE 17: CERTIFICATION FOR YEAR-BEGINNING DISCLOSURE

Pursuant to Clause 2.9.1

We, **JOHN RAE** and **ROGER SUTTON**, being directors of The Lines Company Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

- a) The following attached information of The Lines Company Limited prepared for the purposes of clauses 2.6.3, 2.6.6 and 2.7.2 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.
- b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.
- c) The forecasts in Schedules 11a, 11b, 12a, 12b, 12c and 12d are based on objective and reasonable assumptions which both align with The Lines Company's corporate vision and strategy and are documented in retained records.



DIRECTOR

Date: 28 March 2019



DIRECTOR

Date: 28 March 2019