

**The Lines Company
Limited**



ASSET
MANAGEMENT
PLAN

2017
UPDATE

Copies of this plan are available at www.thelinescompany.co.nz

Schedule 17 for the Year-beginning Disclosure

Clause 2.9.1 of section 2.9

We Mark Darrow and John Rae, 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 clause 2.6.1 and subclauses 2.6.3(4) and 2.6.5(3) of the Electricity 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 of recognised industry standards.

30 March 2017

Date



Mark Darrow
Chairman

30 March 2017

Date



John Rae
Director

SUPPORTING DOCUMENTS

Documents supporting the AMP can be found on the TLC website www.thelinescompany.co.nz

These include:

- The Lines Company 2016 Asset Management Plan
- Pricing Methodology
- The Lines Company Standard Terms of Service
- Annual Reports
- Statement of Corporate Intent
- Information Disclosure
- Threshold (DPP) Compliance

Contents

1.	GOVERNANCE STATEMENT	5
2.	OVERVIEW.....	5
3.	KEY CHANGES TO NETWORK DEVELOPMENT FORECASTS.....	6
3.1	Major Customer Growth	6
3.2	Hangatiki GXP Upgrade	6
3.3	Zone Substation Transformer Upgrades	7
3.4	Summary of Capital Expenditure Changes	8
3.5	Achievability of the Capital Plan in the 2017/18 Financial Year	9
4.	ASSET MANAGEMENT MATURITY (AMMAT).....	10
5.	DISCLOSURE SCHEDULES	11

1. Governance Statement

The Lines Company Board of Governance Statement for the 2017-2027 Asset Management Plan update (The 2017 AMP update).

This AMP update has been prepared to satisfy the requirements of the “Electricity Distribution Information Disclosure Determination 2012 under Part 4 of the Commerce Act for 1986” with the following objectives:

- To identify any material changes to the network development plans disclosed in the 2016 AMP
- To identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the 2016 AMP
- To provide 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
- To identify any changes to the asset management practices of the EDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure.

This AMP Update was approved by The Lines Company Board of Directors. It covers a period of 10 years from the financial year beginning 1 April 2017 until the year ending 31 March 2027.

2. Overview

The Lines Company (TLC) operates a predominantly rural network which has historically seen close to zero load growth for the past decade. As such TLC’s capital expenditure on maintenance and renewal programmes have approximated depreciation.

In the past 12 months three key events have triggered a change to that position, resulting in material changes in both TLC’s load forecast and consequent capital expenditure plan. They are:

- An unprecedented interest from TLC’s major commercial customers to extend operations, and energy demand
- The requirement to upgrade the Grid Exit point of Hangatiki GXP to meet demand forecasts and improve security of supply
- The requirement to both upgrade and repair major zone substation transformers following customer growth and confirmation of a manufacturing defect.

These changes are detailed in this Asset Management Plan Update.

TLC’s other key regulatory cost and reliability forecast indicators, SAIDI, SAIFI and Operational Costs, are in line with the 2016 AMP, with no material changes to report.

3. Key Changes to Network Development Forecasts

TLC’s AMP development plans have been adjusted around three key issues:

- Major customer growth
- Hangatiki GXP upgrade
- Zone substation transformer upgrades

The rationale for these variances is described in the following sections.

3.1 Major Customer Growth

During 2016, TLC experienced unprecedented interest from the commercial and industrial sector for new network delivery capacity. If fully realised the known growth opportunities would require an extra ~30MVA from TLC’s network potential, or perhaps a 20MVA increment to the current 65MVA total network peak demand in the short to medium term.

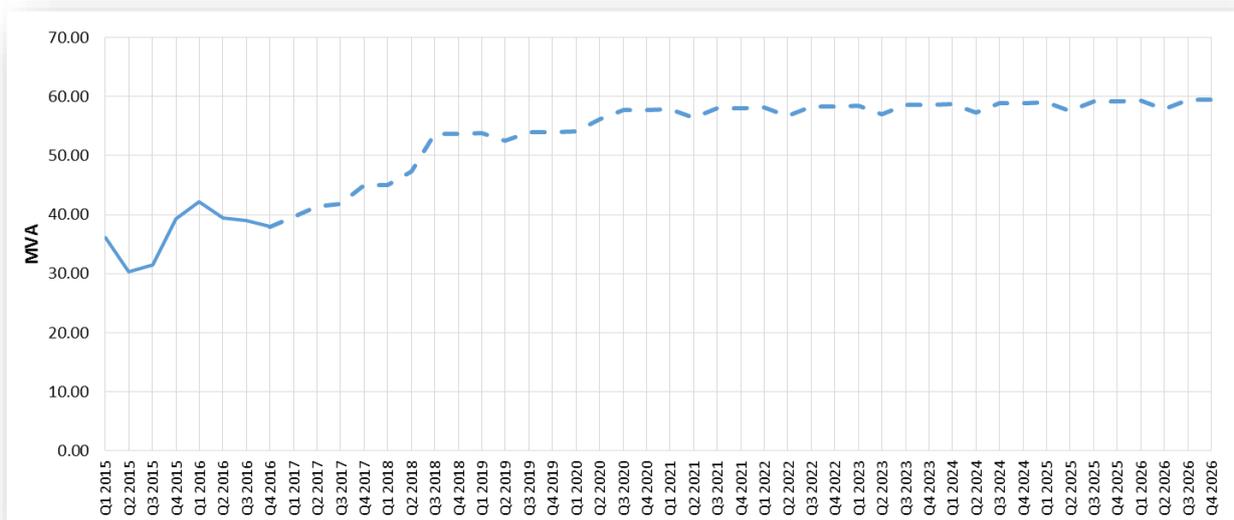
These projects range across tourism, dairy and industrial processing industries and are currently in various stages of commercial negotiation and project planning. As such, TLC has applied a weighted success rate for the customer driven projects where delivery is expected over the next 5 years, which has formed a view of the likely impact on required network investments to meet these new load demands.

3.2 Hangatiki GXP Upgrade

New Transformer Capacity

Figure 1 shows TLC’s revised view of the GXP loading at Hangatiki. In summary, major customer growth is now expected to add ~20MVA of required capacity to the GXP over the planning period, and as such has triggered TLC to commence an upgrade of the GXP with some priority.

Figure 1: Hangatiki GXP - Quarterly Peak Load Forecast



Along with addressing forecast customer demand, the GXP upgrade will also improve security of supply. The Hangatiki GXP currently operates at a peak load of ~40MVA, and this exceeds the firm capacity (n-1) of the existing Transpower transformers by a margin of ~20MVA. TLC plans to increase capacity at Hangatiki by adding a third transformer (20/30MVA) at the GXP to support the existing transformers in place, and this will

provide improved supply options should a failure event occur on one of these important assets. TLC has forecast a capital expenditure of \$5m to effect this upgrade.

Longer Term Supply to TLC's Northern Region.

During the planning process, some uncertainty has emerged regarding the longer term resilience of the 110kV transmission network in the Waikato region, which supplies Hangatiki. At the time of writing it is not clear if Transpower will consider the 110kV supply to the Hangatiki GXP as economically viable post the current ten-year planning period. TLC is currently engaging with Transpower to confirm these critical longer term planning issues, which affect all of the wider Waikato distribution system operators. The ultimate solution to this issue is not known and is currently under review by Transpower and subject to further discussion between Transpower and TLC in the coming year.

3.3 Zone Substation Transformer Upgrades

The third significant variation to the 2016 AMP is the requirement to upgrade transformer capacity at Te Waireka zone substation and Atiamuri supply point, at an estimated cost of ~\$2.4m (which includes relocation of existing transformer assets to other substations).

These upgrades are driven by two factors; customer demand growth, and a need to remove, inspect and potentially repair the existing zone substation transformers to fix a suspected manufacturing issue. The investments will improve security of supply in areas where additional load is forecast to occur, and the existing transformer capacity is too small.

Addressing Zone Substation Transformer Reliability

During the 2016/17 year, a failure of a 10 MVA, 33/11 kV power transformer occurred at the Te Waireka Zone Substation. This failure was the third to occur with a network transformer from the same supplier; the previous failures being a 10 MVA unit at Te Waireka substation in 2005 and a 5 MVA unit at Maraetai substation in 2015.

TLC has now identified a functional failure of tap changer jumper lead crimp connectors in both 5 and 10 MVA units supplied by one of TLC suppliers from a specific factory and time period. TLC has purchased a total of seven transformers from this factory. Already one of these units has been written off due to a catastrophic failure caused by overheating of the above referenced crimp connections.

As a result of these failures, insurance cover for such transformers has been conditional on all such transformers being overhauled and the connection arrangements described above being modified to a reliable design. This programme has commenced and is anticipated to take three years to complete - i.e. completed by 2019/20 - at an estimated cost of \$610k.

The effect of this programme along with loading issues on three existing transformers has led to a complete rethink of zone substation transformer replacement priorities as follows:

- The Te Waireka zone substation transformers (both existing 10 MVA) are loaded to their firm (n-1) capacity. It has been decided that replacement with new 12.5 MVA units is the best forward path for this substation, and this now scheduled for 2017/18.
- The Te Waireka transformer replacement project is now considered to be of a higher priority than the Waitete zone transformer upgrade which has been rescheduled to the 2019/20 year.
- The original plan to install a 3 MVA packaged substation to offload the Borough substation has been reviewed and now been replaced with a plan to upgrade the Borough zone substation transformers with the refurbished ex-Te Waireka transformers and is scheduled for 2017/18.
- The Maraetai zone substation transformer upgrade project has been advanced one year to 2017/18 and will use ex Borough Zone substation transformers.

- An upgrade of the Atiamuri supply point transformer upgrade from 10 MVA to 20 MVA has been determined to be the best option particularly in view of a recent customer request for a backup supply of up to 7 MVA. This project is scheduled for completion in the 2018/19 year with the transformer upgrade being carried out in 2017/18. The existing 10 MVA transformer at Atiamuri is one of the seven units requiring repair, and once repaired will remain as a standby unit for the Atiamuri Substation.
- The plan to upgrade the existing 3 MVA transformer at Arohena zone substation to 5 MVA has been deferred from 2018/19 to the 2019/20 year.
- The Tawhai zone substation upgrade project has been superseded by a customer request for additional capacity on Mount Ruapehu. As such the upgrade has been paused until customer discussions are further advanced.

3.4 Summary of Capital Expenditure Changes

In total the 2017/18 financial year update indicates a net capex uplift from the prior AMP accumulating to ~\$18m over the first five-year period.

Figure 2 shows a summary of the 2017 AMP Update forecast. The key variances during the first five year period are:

- Strategic investment in new zone substation transformers (incl. Te Waireka and Atiamuri): \$2.4m
- Hangatiki GXP upgrade: \$5.0m
- New consumer connections: \$4.3m
- New corporate building development deferred from 2016/7 and split across the 2017/18 and 2018/19 years: \$3.5m

Figure 2: Ten Year Capital Expenditure Forecast

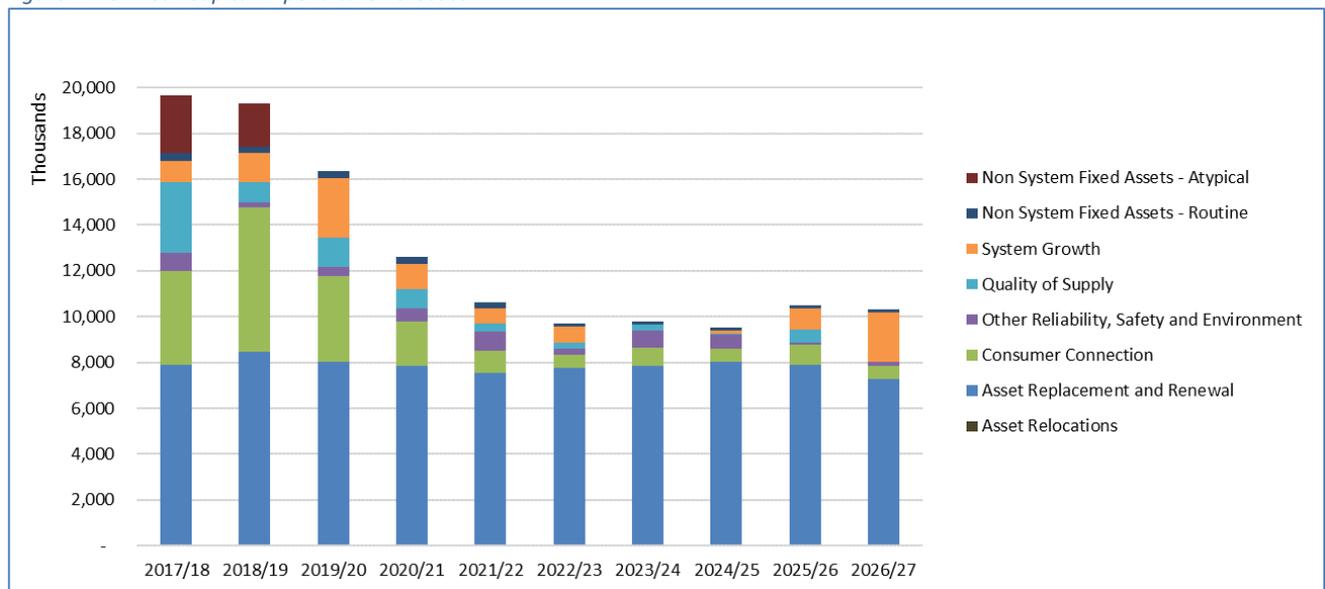
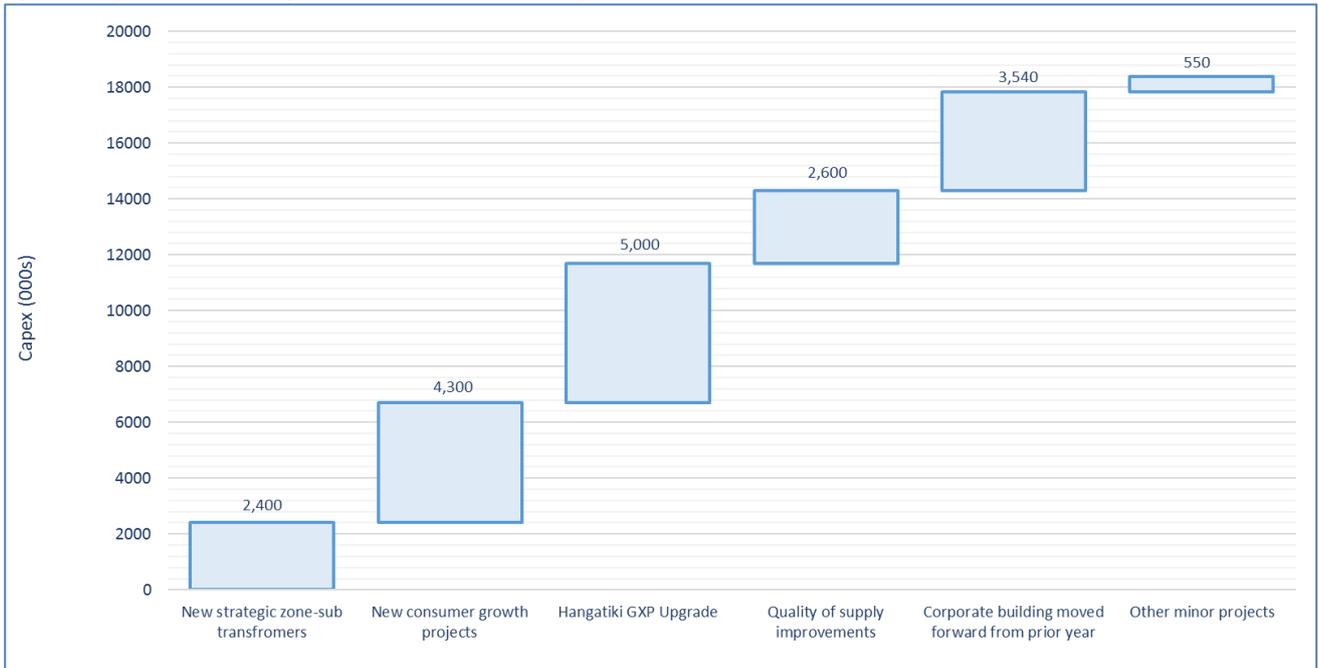


Figure 3 shows the variance bridge between the 2017 AMP figures and the prior 2016 AMP forecast.

Figure 3: Capex variance bridge - 2016 AMP to 2017 AMP Update



3.5 Achievability of the Capital Plan in the 2017/18 Financial Year

The updated plan proposes a capex spend of \$19.6m in the 2017/18 year, up from \$13.8m in the previous plan. 40% of the \$5.8m uplift is allocated to the corporate building construction which has been carried from 2016/17 into the 2017/18 financial year. A further \$2.4m is allocated to the purchase of transformers for Te Waireka and Atiamuri and associated relocations of assets they replace. The balance of the uplift (which affect network capital project resource) is ~\$0.9m which is considered achievable by employing additional outsourced resources where necessary.

4. Asset Management Maturity (AMMAT)

The 2016 AMP outlined identified key focus areas for TLC to progress from AMMAT level 2 (Development) to Level 3 (Competent). During the 2016/17 year TLC has made minor but significant steps towards those objectives. The key constraint however, has been building resource capacity within the Asset Management Group to put improvement initiatives into effect. Consequently, during the 2016/17 year TLC's focus has been in undertaking a business restructure to increase capacity in key Asset Management roles.

Three significant steps have been achieved in the 2016/17 year:

- **Asset Data and Quality Management**

Two new roles have been established to strengthen business processes relating to asset data management, planning and reporting, and design.

- **Health and Safety Improvement**

TLC has undertaken a business wide Health and Safety review and improvement programme, including strengthening its supporting health and safety resource pool. This has been a key initiative and focus for the business during the 2016/17 year and is ongoing.

- **Risk Management**

TLC has commenced work on implementing a more robust risk management system, and this work is expected to mature during the 2017/18 year.

These initiatives are expected to lay a foundation for TLC to accelerate asset management business competency. TLC's asset management is still in a development phase, and current self-assessment is an improvement from above last year's rating, but not yet at level 3 (competent).

5. Disclosure Schedules

- 11a Report on Forecast Capital Expenditure
- 11b Report on Forecast Operational Expenditure
- 12a Report on Asset Condition
- 12b Report on Forecast Capacity
- 12c Report on Forecast Network Demand
- 12d Report on Forecast Interruptions and Duration
- 13 Report on Asset Management Maturity

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

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.

	Current Year CY	CY1	CY2	CY3	CY4	CY5	CY6	CY7	CY8	CY9	CY10
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
11a(i): Expenditure on Assets Forecast	(\$000 (in nominal dollars))										
Consumer connection	1,277	4,064	6,441	3,899	2,090	1,011	634	934	659	1,033	686
System growth	1,090	937	1,271	2,694	1,197	700	793	-	129	1,060	2,581
Asset replacement and renewal	7,958	7,899	8,613	8,351	8,303	8,170	8,537	8,811	9,226	9,250	8,693
Asset relocations	11	11	12	12	12	12	13	13	13	13	14
Reliability, safety and environment:											
Quality of supply	379	3,093	933	1,309	867	397	251	258	71	697	-
Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	736	809	203	403	595	924	332	835	674	71	179
Total reliability, safety and environment	1,116	3,902	1,136	1,712	1,462	1,321	583	1,093	744	768	179
Expenditure on network assets	11,452	16,813	17,473	16,669	13,063	11,215	10,559	10,851	10,771	12,124	12,153
Expenditure on non-network assets	3,328	2,822	2,209	324	330	277	161	164	167	171	174
Expenditure on assets	14,780	19,635	19,682	16,993	13,393	11,492	10,720	11,015	10,939	12,295	12,327
plus Cost of financing	172	198	198	198	198	198	198	198	198	198	198
less Value of capital contributions	-	-	-	-	-	-	-	-	-	-	-
plus Value of vested assets	-	-	-	-	-	-	-	-	-	-	-
Capital expenditure forecast	14,952	19,833	19,880	17,191	13,591	11,690	10,918	11,213	11,137	12,493	12,525
Assets commissioned	11,452	16,813	17,473	16,669	13,063	11,215	10,559	10,851	10,771	12,124	12,153
	Current Year CY	CY1	CY2	CY3	CY4	CY5	CY6	CY7	CY8	CY9	CY10
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
	(\$000 (in constant prices))										
Consumer connection	1,277	4,064	6,315	3,748	1,969	934	574	829	574	882	574
System growth	1,090	937	1,246	2,590	1,128	647	718	-	112	904	2,160
Asset replacement and renewal	7,958	7,899	8,444	8,027	7,824	7,548	7,732	7,824	8,032	7,895	7,274
Asset relocations	11	11	11	11	11	11	11	11	11	11	11
Reliability, safety and environment:											
Quality of supply	379	3,093	915	1,258	817	367	228	229	62	595	-
Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	736	809	199	388	560	854	301	741	596	60	150
Total reliability, safety and environment	1,116	3,902	1,114	1,646	1,377	1,220	528	971	648	655	150
Expenditure on network assets	11,452	16,813	17,130	16,022	12,310	10,361	9,564	9,635	9,377	10,348	10,169
Expenditure on non-network assets	3,328	2,822	2,166	311	311	256	146	146	146	146	146
Expenditure on assets	14,780	19,635	19,296	16,333	12,621	10,617	9,710	9,781	9,523	10,494	10,315
Subcomponents of expenditure on assets (where known)											
Energy efficiency and demand side management, reduction of energy losses	-	-	-	-	-	-	-	-	-	-	-
Overhead to underground conversion	-	-	-	-	-	-	-	-	-	-	-
Research and development	-	-	-	-	-	-	-	-	-	-	-

	for year ended	Current Year CY 31 Mar 17	CY+1 31 Mar 18	CY+2 31 Mar 19	CY+3 31 Mar 20	CY+4 31 Mar 21	CY+5 31 Mar 22	CY+6 31 Mar 23	CY+7 31 Mar 24	CY+8 31 Mar 25	CY+9 31 Mar 26	CY+10 31 Mar 27
51												
52												
53	Difference between nominal and constant price forecasts	\$000										
54	Consumer connection	-	-	128	151	121	77	60	105	85	151	112
55	System growth	-	-	25	105	89	53	75	-	17	155	421
56	Asset replacement and renewal	-	-	169	324	479	622	805	987	1,194	1,355	1,419
57	Asset relocations	-	-	0	0	1	1	1	1	2	2	2
58	Reliability, safety and environment:											
59	Quality of supply	-	-	18	51	50	30	24	29	9	102	-
60	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
61	Other reliability, safety and environment	-	-	4	16	34	70	31	94	87	10	29
62	Total reliability, safety and environment	-	-	22	66	84	101	55	122	96	112	29
63	Expenditure on network assets	-	-	343	647	753	854	995	1,216	1,394	1,776	1,984
64	Expenditure on non-network assets	-	-	43	13	19	21	15	18	22	25	28
65	Expenditure on assets	-	-	386	660	772	875	1,011	1,234	1,416	1,801	2,012
66												
67												
68	11a(ii): Consumer Connection											
69	<i>Consumer types defined by EDE*</i>	\$000 (in constant prices)										
70	Standard: Service Level Urban A	177	158	158	158	158	158					
71	Standard: Service Level Rural B	71	63	63	63	63	63					
72	Standard: Service Level Rural C	131	117	117	117	117	117					
73	Standard: Service Level Rural D	219	194	194	194	194	194					
74	Standard: Service Level Remote Rural E	26	23	23	23	23	23					
75	Standard: Service Level Remote Rural F	24	21	21	21	21	21					
76	Non-Standard Customer Connection	630	3,490	5,741	3,174	1,395	360					
77	<i>Include additional rows if needed</i>											
78	Consumer connection expenditure	1,277	4,064	6,315	3,748	1,969	934					
79	less Capital contributions funding consumer connection											
80	Consumer connection less capital contributions	1,277	4,064	6,315	3,748	1,969	934					
81												
82	11a(iii): System Growth											
83	Subtransmission	-	-	-	890	700	-					
84	Zone substations	-	-	281	1,147	-	-					
85	Distribution and LV lines	869	769	966	441	110	647					
86	Distribution and LV cables	-	-	-	-	112	-					
87	Distribution substations and transformers	-	-	-	-	94	-					
88	Distribution switchgear	221	168	-	112	112	-					
89	Other network assets	-	-	-	-	-	-					
90	System growth expenditure	1,090	937	1,246	2,590	1,128	647					
91	less Capital contributions funding system growth											
92	System growth less capital contributions	1,090	937	1,246	2,590	1,128	647					
93												

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar17	31 Mar18	31 Mar19	31 Mar20	31 Mar21	31 Mar22
11a(iv): Asset Replacement and Renewal	\$000 (inconstant prices)					
Subtransmission	1,299	1,509	1,300	1,549	1,557	1,398
Zone substations	142	999	747	381	157	-
Distribution and LV lines	5,501	4,134	5,232	4,939	5,235	5,345
Distribution and LV cables	-	227	227	524	248	248
Distribution substations and transformers	362	380	380	380	472	380
Distribution switchgear	219	102	344	76	76	98
Other network assets	435	547	212	179	79	79
Asset replacement and renewal expenditure	7,958	7,899	8,444	8,027	7,824	7,548
less Capital contributions funding asset replacement and renewal						
Asset replacement and renewal less capital contributions	7,958	7,899	8,444	8,027	7,824	7,548

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar17	31 Mar18	31 Mar19	31 Mar20	31 Mar21	31 Mar22
11a(v): Asset Relocations	\$000 (inconstant prices)					
<i>Project or programme*</i>						
Miscellaneous	11	11	11	11	11	11
<i>*include additional rows if needed</i>						
All other project or programmes - asset relocations						
Asset relocations expenditure	11	11	11	11	11	11
less Capital contributions funding asset relocations						
Asset relocations less capital contributions	11	11	11	11	11	11

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar17	31 Mar18	31 Mar19	31 Mar20	31 Mar21	31 Mar22
11a(vi): Quality of Supply	\$000 (inconstant prices)					
<i>Project or programme*</i>						
11kV Fdr Dev - Feeder Development	-	189	66	-	-	176
11kV Fdr Dev - Switch Automation and Renewal	274	356	339	208	240	190
Sub & 33 Dev - 33kV Lines		84	179	-	-	-
Sub & 33 Dev - Substations	105	2,464	-	1,050	578	-
Sub & 33 Dev - Supply Points	-	-	331	-	-	-
<i>*include additional rows if needed</i>						
All other projects or programmes - quality of supply						
Quality of supply expenditure	379	3,093	915	1,258	817	367
less Capital contributions funding quality of supply						
Quality of supply less capital contributions	379	3,093	915	1,258	817	367

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027

SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the 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. EDBs 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		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10	
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27	
9	Operational Expenditure Forecast	\$000 (in nominal dollars)											
10	Service interruptions and emergencies	1,252	1,165	1,188	1,212	1,236	1,261	1,286	1,312	1,338	1,365	1,392	
11	Vegetation management	1,061	1,115	1,137	1,160	1,183	1,206	1,231	1,255	1,280	1,306	1,332	
12	Routine and corrective maintenance and inspection	1,069	1,183	1,207	1,231	1,256	1,227	1,251	1,276	1,302	1,328	1,354	
13	Asset replacement and renewal	190	190	194	195	202	206	210	214	218	223	227	
14	Network Opex:	3,572	3,653	3,726	3,800	3,876	3,900	3,978	4,057	4,139	4,221	4,306	
15	System operations and networks support	2,124	2,365	2,413	2,461	2,510	2,560	2,611	2,664	2,717	2,771	2,827	
16	Business support	5,574	5,852	5,869	6,089	6,210	6,335	6,461	6,591	6,722	6,857	6,994	
17	Non-network opex:	7,697	8,217	8,382	8,548	8,720	8,895	9,073	9,254	9,439	9,628	9,821	
18	Operational expenditure	11,269	11,870	12,108	12,350	12,597	12,795	13,051	13,312	13,578	13,849	14,126	
19		\$000 (in constant prices)											
20	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27	
22	Service interruptions and emergencies	1,252	1,165	1,165	1,165	1,165	1,165	1,165	1,165	1,165	1,165	1,165	
23	Vegetation management	1,061	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115	1,115	
24	Routine and corrective maintenance and inspection	1,069	1,183	1,183	1,183	1,183	1,133	1,133	1,133	1,133	1,133	1,133	
25	Asset replacement and renewal	190	190	190	190	190	190	190	190	190	190	190	
26	Network Opex:	3,572	3,653	3,653	3,653	3,653	3,603	3,603	3,603	3,603	3,603	3,603	
27	System operations and networks support	2,124	2,365	2,365	2,365	2,365	2,365	2,365	2,365	2,365	2,365	2,365	
28	Business support	5,574	5,852	5,852	5,852	5,852	5,852	5,852	5,852	5,852	5,852	5,852	
29	Non-network opex:	7,697	8,217	8,217	8,217	8,217	8,217	8,217	8,217	8,217	8,217	8,217	
30	Operational expenditure	11,269	11,870	11,870	11,870	11,870	11,820	11,820	11,820	11,820	11,820	11,820	
31	Subcomponents of operational expenditure (where known)												
32	Energy efficiency and demands side management, reduction of energy losses	630	553	565	577	589	602	615	629	643	657	671	
34	Direct billing*	1,629	1,711	1,711	1,711	1,711	1,711	1,711	1,711	1,711	1,711	1,711	
35	Research and Development	-	-	-	-	-	-	-	-	-	-	-	
36	Insurance	156	153	153	153	153	153	153	153	153	153	153	
37	* Direct billing expenditure by suppliers that direct bill the majority of their consumers												

39		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
40	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
41	Difference between nominal and real forecasts	\$000										
42	Service interruptions and emergencies	-	-	23	47	71	96	121	147	173	200	227
43	Vegetation management	-	-	22	45	68	92	116	141	166	191	217
44	Routine and corrective maintenance and inspection	-	-	24	48	72	93	118	143	169	195	221
45	Asset replacement and renewal	-	-	4	8	12	16	20	24	28	33	37
46	Network Opex	-	-	73	148	224	297	375	455	536	618	703
47	System operations and network support	-	-	47	96	145	195	246	298	352	406	461
48	Business support	-	-	117	236	358	482	609	738	870	1,005	1,142
49	Non-network opex	-	-	164	332	503	677	855	1,037	1,222	1,411	1,603
50	Operational expenditure	-	-	237	480	727	974	1,230	1,491	1,758	2,029	2,306

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027

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	Asset condition at start of planning period (percentage of units by grade)										
	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
7											
8											
9											
10	All	Overhead Line	Concrete poles / steel structure	No.	0.54%	0.84%	71.27%	13.36%	13.98%	3	5.89%
11	All	Overhead Line	Wood poles	No.	1.91%	1.99%	45.03%	7.88%	43.19%	2	8.07%
12	All	Overhead Line	Other pole types	No.	-	-	-	-	-	N/A	-
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	-	25.67%	62.41%	0.15%	11.77%	2	6.19%
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	-	-	-	N/A	-
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	-	-	40.24%	26.84%	32.92%	2	-
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	-	-	-	-	-	N/A	-
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	-	-	-	N/A	-
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	-	-	-	-	-	N/A	-
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	-	-	-	N/A	-
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	-	-	-	N/A	-
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	-	-	-	N/A	-
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	-	-	-	N/A	-
23	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	-	-	-	N/A	-
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.	-	-	88.89%	11.11%	-	3	11.11%
25	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	-	-	-	N/A	-
26	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	-	-	-	-	-	N/A	-
27	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	8.77%	-	61.40%	29.82%	-	3	12.28%
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	-	-	-	-	-	N/A	-
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	1.01%	15.66%	68.69%	14.65%	-	3	-
30	HV	Zone substation switchgear	33kV RMU	No.	-	-	-	-	-	N/A	-
31	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	-	-	-	N/A	-
32	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	-	-	-	-	-	N/A	-
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	19.18%	-	57.53%	23.29%	-	3	15.07%
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	-	-	81.08%	18.92%	-	3	-
35											

	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
38											
39	HV	Zone Substation Transformer	Zone Substation Transformers	No.	-	5.56%	86.11%	8.33%	-	3	8.33%
40	HV	Distribution Line	Distribution OH Open Wire Conductor	km	0.27%	10.50%	68.30%	0.92%	20.00%	2	2.59%
41	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	-	-	-	N/A	-
42	HV	Distribution Line	SWER conductor	km	0.10%	22.84%	56.36%	0.70%	20.00%	2	-
43	HV	Distribution Cable	Distribution UG XLPE or PVC	km	0.34%	2.01%	6.28%	7.44%	83.92%	2	4.02%
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.	-	1.41%	44.60%	31.92%	22.07%	2	3.29%
47	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	-	-	-	100.00%	-	3	-
48	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	-	8.17%	66.58%	20.35%	4.90%	2	0.86%
49	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	-	-	40.00%	60.00%	-	3	-
50	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	-	-	63.41%	36.59%	-	3	-
51	HV	Distribution Transformer	Pole Mounted Transformer	No.	0.19%	1.09%	71.69%	14.54%	12.49%	2	1.24%
52	HV	Distribution Transformer	Ground Mounted Transformer	No.	0.38%	-	85.04%	14.58%	-	3	2.84%
53	HV	Distribution Transformer	Voltage regulators	No.	-	3.00%	69.00%	28.00%	-	3	-
54	HV	Distribution Substations	Ground Mounted Substation Housing	No.	-	-	44.44%	55.56%	-	3	-
55	LV	LV Line	LV OH Conductor	km	-	8.96%	50.27%	0.76%	40.00%	2	-
56	LV	LV Cable	LV UG Cable	km	-	0.67%	3.53%	2.03%	93.77%	2	0.67%
57	LV	LV Streetlighting	LV OH/UG Streetlight circuit	km	-	5.44%	41.37%	0.19%	53.00%	2	-
58	LV	Connections	OH/UG consumer service connections	No.	0.48%	0.48%	79.44%	14.13%	5.48%	2	-
59	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	6.72%	13.81%	75.00%	4.48%	-	3	-
60	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	9.30%	6.20%	63.57%	20.93%	-	3	-
61	All	Capacitor Banks	Capacitors including controls	No.	-	-	11.11%	88.89%	-	4	-
62	All	Load Control	Centralised plant	Lot	-	41.67%	50.00%	8.33%	-	3	-
63	All	Load Control	Relays	No.	-	-	96.28%	3.72%	-	3	-
64	All	Civils	Cable Tunnels	km	-	-	-	-	-	N/A	-

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027

SCHEDULE 12b: REPORT ON FORECAST CAPACITY

This schedule requires a breakdown of current and forecast capacity and utilisation for each zone substation and current distribution transformer capacity. The data provided should be consistent with the information provided in the AMP. Information provided in this table should relate to the operation of the network in its normal steady state configuration.

sch ref

7 12b(i): System Growth - Zone Substations

8		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 yrs %	Installed Firm Capacity Constraint +5 years (cause)	Explanation
9	<i>Existing Zone Substations</i>									
10	Arohena	3.1	-	N	1.7	-	-	-	No constraint within +5 years	
11	Atiamuri	10.6	-	N	-	-	-	-	No constraint within +5 years	
12	Awamate	0.7	-	N	1.3	-	-	-	No constraint within +5 years	
13	Borough	7.8	5.0	N-1	2.5	155%	10.0	78%	No constraint within +5 years	
14	Gadsby Road	4.7	-	N	5.5	-	-	-	No constraint within +5 years	
15	Hangatiki	4.6	-	N	1.3	-	-	-	No constraint within +5 years	
16	Kaahu Tee	1.7	-	N	0.9	-	-	-	No constraint within +5 years	
17	Kiko Road	1.3	-	N	0.4	-	-	-	No constraint within +5 years	
18	Kuratau	2.6	3.0	N-1	0.1	87%	3.0	93%	No constraint within +5 years	
19	Mahoenui	0.8	-	N	0.5	-	-	-	No constraint within +5 years	
20	Manunui	1.4	-	N	1.2	-	-	-	No constraint within +5 years	
21	Maraetai	5.1	-	N	0.5	-	5.0	118%	Transformer	To be alleviated in 2022/23 by off loading to news substation
22	Marotiri	2.5	-	N	1.3	-	-	-	No constraint within +5 years	
23	Mokai	3.9	-	N	1.1	-	-	-	No constraint within +5 years	
24	National Park	1.5	-	N	1.2	-	-	-	No constraint within +5 years	
25	Nihoniho	1.2	-	N	0.7	-	-	-	No constraint within +5 years	
26	Oparure	1.6	-	N	1.1	-	-	-	No constraint within +5 years	
27	Otukou	0.2	-	N	-	-	-	-	No constraint within +5 years	
28	Taharoa	15.2	10.0	N-1	-	152%	15.0	153%	Transformer	Managed by agreement with Industrial Customer
29	Tawhai	4.2	-	N	0.7	-	-	-	No constraint within +5 years	
30	Te Anga	2.0	-	N	0.2	-	-	-	No constraint within +5 years	
31	Te Waireka	11.3	10.0	N-1	2.1	113%	15.0	81%	No constraint within +5 years	
32	Tokaanu	0.2	-	N	-	-	-	-	No constraint within +5 years	
33	Tuhua	1.3	-	N	0.8	-	-	-	No constraint within +5 years	
34	Turangi	4.0	5.0	N-1	2.0	79%	5.0	81%	No constraint within +5 years	
35	Waiotaka	0.4	-	N	0.5	-	-	-	No constraint within +5 years	
36	Wairere Falls	2.7	2.5	N-1	1.1	108%	2.5	114%	Transformer	Can be managed through 11kV ties
37	Waitete	8.9	10.0	N-1	3.8	89%	10.0	93%	No constraint within +5 years	

¹ Extend forecast capacity table as necessary to disclose all capacity by each zone substation

Company Name **The Lines Company Ltd**
 AMP Planning Period **1 April 2017 – 31 March 2027**

SCHEDULE 12C: REPORT ON FORECAST NETWORK DEMAND

This schedule 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				Number of connections					
				Current Year CY for year ended 31 Mar 17	CY+1 31 Mar 18	CY+2 31 Mar 19	CY+3 31 Mar 20	CY+4 31 Mar 21	CY+5 31 Mar 22
7	12c(i): Consumer Connections								
8	Number of ICPs connected in year by consumer type								
9									
10									
11	Consumer types defined by EDB*								
12	Standard: Service Level Urban A		29	29	29	29	29	29	
13	Standard: Service Level Rural B		4	4	4	4	4	4	
14	Standard: Service Level Rural C		20	20	20	20	20	20	
15	Standard: Service Level Rural D		44	44	44	44	44	44	
16	Standard: Service Level Remote Rural E		5	5	5	5	5	5	
17	Standard: Service Level Remote Rural F		4	4	4	4	4	4	
18	Non-Standard Customer Connection		-	-	1	-	-	-	
18	Connections total		106	106	107	106	106	106	
19	*include additional rows if needed								
20	Distributed generation								
21	Number of connections		9	8	8	8	8	8	
22	Capacity of distributed generation installed in year (MVA)		0.03	0.03	0.03	0.03	0.03	0.03	
23	12c(ii) System Demand								
24									
25	Maximum coincident system demand (MW)								
26	GXP demand		56.6	59.6	67.8	68.5	71.9	72.7	
27	plus	Distributed generation output at HV and above	8.2	8.3	8.3	8.3	8.3	8.3	
28	Maximum coincident system demand		65	68	76	77	80	81	
29	less	Net transfers to (from) other EDBs at HV and above	-	-	-	-	-	-	
30	Demand on system for supply to consumers' connection points		65	68	76	77	80	81	
31	Electricity volumes carried (GWh)								
32	Electricity supplied from GXPs		303.3	321.2	366.6	369.1	387.5	390.2	
33	less	Electricity exports to GXPs	4.2	4.2	4.3	4.3	4.4	4.5	
34	plus	Electricity supplied from distributed generation	67.8	67.9	68.0	68.0	68.1	68.2	
35	less	Net electricity supplied to (from) other EDBs	(11.6)	(11.8)	(11.9)	(12.1)	(12.3)	(12.4)	
36	Electricity entering system for supply to ICPs		379	397	442	445	463	466	
37	less	Total energy delivered to ICPs	343.8	367.3	409.5	412.0	429.2	431.9	
38	Losses		35	29	33	33	34	34	
39									
40	Load factor		67%	67%	66%	66%	66%	66%	
41	Loss ratio		9.2%	7.4%	7.4%	7.4%	7.4%	7.4%	

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
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		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
8							
9							
10	SAIDI						
11	Class B (planned interruptions on the network)	39.5	39.5	39.5	39.5	39.5	39.5
12	Class C (unplanned interruptions on the network)	169.3	169.3	169.3	169.3	169.3	169.3
13	SAIFI						
14	Class B (planned interruptions on the network)	0.25	0.25	0.25	0.25	0.25	0.25
15	Class C (unplanned interruptions on the network)	2.82	2.82	2.82	2.82	2.82	2.82

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the EDB'S self-assessment of the maturity of its asset management practices.

Question No.	Function	Question	Score	Evidence-Summary	User Guidance	Why	Who	Record/documented Information
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	2	The Lines Company's (TLC) Asset Management Policy is derived from, and is consistent with TLC's Statement of Corporate Intent. The Asset Management Policy is consistent with other organisational policies. The Asset Management Policy is reviewed and updated every 12-18 months by the TLC Board of Directors. The Asset Management Policy and Strategy flow into the Asset Management Plan (AMP) and one of the objectives of the AMP is to communicate the Asset Management Policy and Asset Management Strategy to stakeholder, regulatory bodies, customers, TLC employees and the general public. An electronic copy of the AMP is available on the TLC website and bound paper copies are available by request.	TLC Statement of Corporate Intent, AMP, Asset Management Policy.	Widely used AM practices standards require an organisation to document, authorise and communicate its asset management policy (e.g., as required in PAS 55 para 4.2 i). 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, 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.	Top management. The management team that has overall responsibility for asset management.	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	The Asset Management Strategies are identified from the Strategic review and the Statement of Corporate Intent; the agreement between TLC and its owners. TLC ensures that the Asset Management Strategy is consistent with other organisational policies and strategies and aligns with the needs of other stakeholders. The AMP is aligned to and is part of TLC's Asset Management Policy and forms a significant part of the asset management strategy. One of the objectives of AMP is to communicate the Asset Management Policy and Asset Management Strategy to stakeholder, regulatory bodies, customers, TLC employees and general public.	TLC Statement of Corporate Intent, AMP	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 (e.g., 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.	Top management. The organisation's strategic planning team. The management team that has overall responsibility for asset management.	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	When establishing the a long term asset management strategy TLC has considered the asset related risk, the physical condition of the assets, age profile, flexibility and suitability of the assets and their intended use. Other items that have been considered are asset type, condition, and historical asset related information such as reliability, maintenance records and operational performance.	AMP	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 4.3.1 d) of PAS 55). This question explores what an organisation has done to take lifecycle into account in its asset management strategy.	Top management. People in the organisation with expert knowledge of the assets, asset types, asset systems and their associated life-cycles. The management team that has overall responsibility for asset management. Those responsible for developing and adopting methods and processes used in asset management	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 Asset and Engineering Team prepare the AMP annually. Part of the process is reviewing the previous years AMP and discussing information that stakeholders wish to have included. When establishing the Asset Management Plan TLC has taken into consideration: <ul style="list-style-type: none"> Asset Management Policy Risk management Policy TLC's existing asset management objectives and performance and condition targets Financial and resource capabilities or constraints Life cycle costs Legal, regulatory, statutory and other asset management requirements Historic and predicted asset condition, deterioration and failure mechanism and performance profiles. 	AMP	The asset management strategy need to be translated into practical plan(s) so that all parties know how the objectives will be achieved. The development of plan(s) will need to identify the specifics 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 management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers.	The organisation's asset management plan(s).

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
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?	2	At the start of each financial year completed copies of the AMP are distributed to TLC's Trust shareholders, Board of Directors, Finance Team, Communications Team, Asset and Engineering Team, Contracting Team and various regulatory bodies. Electronic copies of the AMP are available for all employees on TLC's Network database. 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.	AMP Distribution Register	Plans will be ineffective unless they are communicated to all those, including contracted suppliers and those who undertake enabling function(s). The plan(s) need to be communicated in a way that is relevant to those who need to use them.	The management team with overall responsibility for the asset management system. Delivery functions and suppliers.	Distribution lists for plan(s). Documents derived from plan(s) which detail the receiver's role in plan delivery. Evidence of communication.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	2	Designated responsibilities for delivery of the AMP are documented and set out in the asset and engineering team structure. The asset and engineering team is governed by the Chief Asset Officer. The Chief Asset Officer has overall responsibility of network management, including the preparation, drafting, and implementation of the AMP. These are also documented in employee position descriptions.	Copy of the structure can be found in section 2 of the AMP and in employee position descriptions.	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.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team.	The organisation's asset management plan(s). Documentation defining roles and responsibilities of individuals and organisational departments.
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	TLC endeavours to align the staff numbers, structure and skills to ensure an efficient and cost effective implementation of the asset management plan. TLC has resources in place for the implementation of the asset management plan; however these resources are not yet adequately sufficient. Due to the difficulty of attracting staff to the King Country and the increasing regulatory requirements it is not always possible to have the required staff numbers.	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.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team. Where appropriate the procurement team and service providers working on the organisation's asset-related activities.	The organisation's asset management plan(s). Documented processes and procedures for the delivery of the asset management plan.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	2	TLC's Contingency budgets are set in section 5 (Reliability, Safety and Environmental Development Program) of the AMP, the Risk Policies are outlined in Section 7 (Risk Management) of the AMP. Contingency budgets are set aside each year to cover any unforeseen capital works such as tap-offuses for new connection, SCADA, distribution transformers, protection relays and radio systems including repeatersites. TLC recognises that risk is defined as the product of probability and consequences therefore the planning criteria and assumptions are based on this recognition. TLC has in place a Civil Defence Plan and an Event Management Plan.	AMP Section 5 (Reliability, Safety and Environmental Development Program) of the AMP, the Risk Policies are outlined in Section 7 (Risk Management) Civil Defence Plan and a Event Management Plan	Widely used AM practice standards require that an organisation has plan(s) to identify and respond to emergency situations. Emergency plan(s) should outline the actions to be taken to respond to specified emergency situations and ensure continuity of critical asset management activities 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 manager with responsibility for developing emergency plan(s). The organisation's risk assessment team. People with designated duties within the plan(s) and procedure(s) for dealing with incidents and emergency situations.	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 Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
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)?	2	The Asset and Engineering Team are responsible for carrying out the various activities that are specified in the AMP and individuals within the groups have various delegated authorities to implement the Asset Management Plan. Designated responsibilities for delivery of the Asset Management Plan are documented and set out in the Asset and Engineering Team structure.	Copy of the structure can be found in section 2 of the AMP and Employee position descriptions.	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 e.g., para b), s 4.4.1 of PAS 55, making it therefore distinct from the requirement contained in para a) s 4.4.1 of PAS 55).	Top management. People with management responsibility for the delivery of asset management policy, strategy, objectives and plan(s). People working on asset-related activities.	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.
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	TLC understands the need for sufficient resources; a budget has been allocated for resources such as staff, material, equipment and services from third parties. TLC endeavours to align the staffing, the structure and skills with the AMP to ensure effective and efficient implementation.	Section 2 of AMP.	Optimal asset management requires top management to ensure sufficient resources are available. In this context the term 'resources' includes manpower, materials, funding and service providers support.	Top management. The management team that has overall responsibility for asset management. Risk management team. The organisation's managers involved in day-to-days supervision of asset-related activities, such as frontline managers, engineers, foremen and charge hands 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.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	2	Top management communicate the importance of meeting its asset management requirements during an annual road show.	Company Road Show.	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 (e.g., PAS 55 s 4.4.1 g).	Top management. The management team that has overall responsibility for asset management. People involved in the delivery of the asset management requirements.	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.
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?	2	Most asset management tasks, including asset inspection, are undertaken in-house by the Asset and Engineering Team. The Engineers in the team inspect and prepare detailed designs and specifications, including legal and regulatory approvals for all capital and maintenance works, these are then issued to TLC's in-house service provider or external specialist contractors. The internal service provider is mainly staffed for fault response, however they carry out about 70% of the capital and maintenance works. The balance of the work is then subcontracted out to external contractors. Independent Contractor Agreements are put in place with external providers; the contract agreement provide detailed designs and specifications of the work to be done, the legal and regulatory requirement associated with the job and the rules and procedures that the contractors shall abide by when working on TLC's network. Specialist works such as SCADA, communications and vegetation is controlled directly by the Asset and Engineering Team but is completed by contractors.	Section 2 of AMP, Service Agreements with contractors	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 (e.g., 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 to external providers or to other in-house departments. This question explores what the organisation does in this regard.	Top management. The management team that has overall responsibility for asset management. The manager(s) responsible for the monitoring and management of the outsourced activities. People involved with the procurement of outsourced activities. The people within the organisations that are performing the outsourced activities. The people impacted by the outsourced activity.	The organisation's arrangements that detail the compliance required of the outsourced activities. For example, this this could form part of a contractors 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	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
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	TLC uses the understandings gained from the asset management policies and strategies to help identify the resources requirements and then plan, provide and record the training necessary to achieve the competencies. The current strategy has been to employ a number of industry experienced and qualified personnel, and then use them to impart their knowledge in training local people.	Section 2 of the AMP.	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 commensurate with the planning horizons within the asset management strategy considers e.g. if the asset management strategy considers 5, 10 and 15 year timescales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	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.	Evidence of analysis of future work load plan(s) in terms of human resources. Document(s) 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.
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	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.		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. (e.g., PAS 55 refers to frameworks suitable for identifying competency requirements).	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.	Evidence of an established and applied competency requirements assessment process and plan(s) in place to deliver the required training. Evidence that the training programme is part of a wider, co-ordinated asset management activities training and competency programme. Evidence that training activities are recorded and that records are readily available (for both direct and contracted service provider staff) e.g. via organisation wide information system or local records databases.
50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	2	Moving forward TLC's strategy to overcome the skills shortage will be to encourage personal development and training of current employees. TLC has also undertaken a programme to attract local graduates to the organisation.		A critical success factor for the effective development and implementation of an asset management system is the competence of persons undertaking these activities. Organisations should have effective means in place for ensuring the competence of employees to carry out their designated asset management function(s). 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.	Managers, supervisors, persons responsible for developing training programmes. Staff responsible for procurement and service agreements. HR staff and those responsible for recruitment.	Evidence of a competency assessment framework that aligns with established frameworks such as the asset management Competencies Requirements Framework (Version 2.0); National Occupational Standards for Management and Leadership; UK Standard for Professional Engineering Competence, Engineering Council, 2005.

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
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	Two way communication exists between TLC and its shareholders, TLC provides its shareholders with regular newsletters, which include information on non-financial performance. Annual and Half yearly reports comprising of a report from the board of directors covering the operations for the reporting period and consolidation 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, including identification of all programmed projects with a capital expenditure in excess of \$200,000.	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 and deliver asset management strategy, plan(s) and objectives. This will include for example the communication of the asset management policy, asset performance information, and planning information as appropriate to contractors.	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) from the organisation's Health, Safety and Environmental team. Key stakeholder representative(s).	Asset management policy statement prominently displayed on notice boards, intranet and internet; use of organisation's website for displaying asset performance data; evidence of formal briefings to employees, stakeholders and contracted service providers; evidence of inclusion of asset management issues in team meetings and contracted service provider contract meetings; newsletters, etc.
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	TLC has used three systems; a Financial System (Navision), Billing System (Gentrack), and an Asset Data System (Basix). All have an SQLs server databases and data is being exchanged between systems. The financial system is based on a Navision software package over an SQLs server database. In addition to processing and providing financial information for the various companies associated with TLC, it includes detailed job costing packages. The financial system is stable, but further development is needed to give the low level detailed reports required. The billings software is based on a heavily modified Talgentra system over an SQLs server database. The "off the shelf" volumetric traditional billings system had to be modified to an extent far greater than originally envisioned to cope with demand based billing. The asset management system is based on BASIX software over an SQLs server database. The BASIX system contains asset data and is used to calculate reliability statistics and valuations. It also produces reports that align with the network performance criteria in the Asset Management Plan.	Section 2 of the AMP	Widely used AM practice standards require an organisation maintain up to date documentation that ensures that its asset management systems (i.e., the systems the organisation has in place to meet the standards) can be understood, communicated and operated. (e.g., 4.5 of PAS 55 requires the maintenance of up to date documentation of the asset management system requirements specified throughout 4 of PAS 55).	The management team that has overall responsibility for asset management. Managers engaged in asset management activities.	The documented information describing the main elements of the asset management system (process(es)) and their interaction.
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	TLC has determined what its asset management information systems should contain by reviewing historically recorded data, the increasing requirements from various regulatory bodies, the safety management system requirements, internal information required for pricing and billing, as well as the intellectual knowledge of staff. The asset management information system is regularly reviewed and improved when necessary.	Section 2 of the AMP	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 specialist activity that is akin to IT management but different from IT management. This group of questions provides some indications as to whether the capability is available and applied. Note: 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.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Operations, maintenance and engineering managers	Details of the process the organisation has employed to determine what its asset information systems should contain in order to support its asset management system. Evidence that this has been effectively implemented.

Company Name

The Lines Company Ltd

AMP Planning Period

1 April 2017 – 31 March 2027

Asset Management Standard Applied

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
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	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 fields are set up in the Basix databases, this means that when new assets are 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 tracer that is built into the database.	Section 2 of the AMP	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 (e.g., s 4.4.6 (a), (c) and (d) of PAS 55).	The management team that has overall responsibility for asset management. Users of the organisational information systems.	The asset management information system, together with the policies, procedure(s), improvement initiatives and audits regarding information controls.
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	2	TLC's asset management information system is reviewed and aligned current asset management requirements, it also aligns with the increasing regulatory and safety management requirement. TLC has included in the annual plan a budget for information system upgrades and maintenance, the asset management information system is regularly reviewed and improved when necessary.	Section 2 of the AMP	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 organisations needs, can be effectively used and can supply information which is consistent and of the requisite quality and accuracy.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Users of the organisational information systems.	The documented process the organisation employs to ensure its asset management information system aligns with its asset management requirements. Minutes of information systems review meetings involving users.
69	Risk management process(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?	2	TLC uses formal and informal studies based on industry experience and information to identify risks. The process and procedures for the identification and assessment of asset and asset management related risks throughout the asset life cycle is documented in the Distribution Policies and Standard. The details of asset risk policies are included in the distribution standard codes, policies and other documents. The policies also include various techniques for identifying, quantifying and managing asset related risk with varying levels of complexity. TLC constantly review its individual requirements in terms of risk identification, including the availability of information and implementation practicalities of reduction strategy.	Section 7 of the AMP	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 such 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 procedure(s) 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 (e.g., para 4.3.3 of PAS 55).	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.	The organisation's risk management framework and/or evidence of specific process(es) and/or procedure(s) that deal with risk control mechanisms. Evidence that the process(es) and/or procedure(s) are implemented across the business and maintained. 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.
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?	2	TLC reviews and analyses the results of the risk assessment, once an understanding is gained the results are then used to help identify the resources, training and competency requirements to achieve the asset management strategy. TLC believes on-going training, assessment and monitoring is important to ensure staff are competent to complete assigned tasks.	Section 7 of the AMP	Widely used AM standards require that the output from risk assessments are considered and that adequate resource (including staff) and training is identified to match the requirements. It is a further requirement that the effects of the control measures are considered, as there may be implications in resources and training required to achieve other objectives.	Staff responsible for risk assessment and those responsible for developing and approving resource and training plan(s). There may also be input from the organisation's Safety, Health and Environment team.	The organisation's risk management framework. The organisation's resourcing plan(s) and training and competency plan(s). The organisation should be able to demonstrate appropriate linkages between the content of resource plan(s) and training and competency plan(s) to the risk assessments and risk control measures that have been developed.
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.	Stated in the AMP	In order for an organisation to comply with its legal, regulatory, statutory and other asset management requirements, the organisation first needs to ensure that it knows what they are (e.g., PAS 55 specifies this in 4.4.8). It is necessary to have systematic and auditable mechanisms in place to identify new and changing requirements. Widely used AM standards also require that requirements are incorporated into the asset management system (e.g. procedure(s) and processes).	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.	The organisational processes and procedures for ensuring information of this type is identified, made accessible to those requiring the information and is incorporated into asset management strategy and objectives

Company Name

The Lines Company Ltd

AMP Planning Period

1 April 2017 – 31 March 2027

Asset Management Standard Applied

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document Information
88	Life Cycle Activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	2	TLC's overarching asset management strategy is to have policies, systems and procedures in intellectual understanding to create, operate and maintain a sustainable network. TLC has established an asset management procedure to assist with the implementation of the Asset Management Plan; the procedure outlines the responsibilities of the asset management group, this includes the responsibilities of maintenance and project works. The design, modification, construction and commissioning activities are set out in TLC's distribution standards and the operations of assets are covered by the operating procedures. The Basix database allows TLC to monitor the life cycle activities of all network assets. The Basix database is used to record the creation, acquisition, procurement and enhancement of network assets as well as recording asset information, condition and expenditure.	AMP, Distribution Standard, Operating Procedures, Basix Database	Life cycle activities are about the implementation of asset management plan(s) i.e. they are the "doing" phase. They need to be done effectively and well in order for asset management to have any practical meaning. As a consequence, widely used standards (e.g., PAS 55 s 4.5.1) require organisations to have in place appropriate process(es) and procedure(s) for the implementation of asset management plan(s) and control of life cycle activities. This question explores those aspects relevant to asset creation.	Asset managers, design staff, construction staff and project managers from other impacted areas of the business, e.g. Procurement	Documented process(es) and procedure(s) which are relevant to demonstrating the effective management and control of life cycle activities during asset creation, acquisition, enhancement including design, modification, procurement, construction and commissioning.
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	2	TLC's process and procedures are reviewed regularly; the asset management procedure, distribution standard and operating procedure are reviewed every 12-18 months. Due to the increasing regulatory requirement the Basix database is constantly reviewed and updated to ensure it is effective and efficient as well as ensuring it aligns with the asset management policy, strategy and objectives and the asset management plan.	AMP, Distribution Standard, Operating Procedures, Basix Database	Having documented process(es) which ensure the asset management plan(s) are implemented in accordance with any specified conditions, in a manner consistent with the asset management policy, strategy and objectives and in such a way that cost, risk and asset system performance are appropriately controlled is critical. They are an essential part of turning intention into action (e.g., as required by PAS 55 s 4.5.1).	Asset managers, operations managers, maintenance managers and project managers from other impacted areas of the business	Documented procedure for review. Documented procedure for audit of process delivery. Records of previous audits, improvement actions and documented confirmation that actions have been carried out.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	2	Reliability monitoring is done via the Basix system. Fault information is entered from daily reporting sheets, which in turn are completed from a variety of sources including SCADA, entries, the telephone database and control room data. Monthly performance reports are generated and reviewed at management level and reported at board level. Equipment failures in the various sections of the network and the SAIDI/SAIFI effects of these are monitored closely. Reports are set up in the Basix system to produce the regulatory and internal performance data, including Commerce Commission Decision reports. The BASIX system is used to report asset performance and effectiveness such as voltage complaints and system component failures. The ratio of billed kVA to the sum of the kVA of distribution transformers is determined from BASIX and the billing data boxes by runnings equal server reports. Network technical losses are calculated using models that include the effects of generation. The BASIX system is also used to report on the customer's service levels. These include time to restore supply and maximum number of shutdowns.	AMP, Basix Database	Widely used AM standards require that organisations establish implement and maintain procedure(s) to monitor and measure the performance and/or condition of assets and asset systems. They further set out requirements in some detail for reactive and proactive monitoring, and leading/lagging performance indicators together with the monitoring or results to provide input to corrective actions and continual improvement. There is an expectation that performance and condition monitoring will provide input to improving asset management strategy, objectives and plan(s).	A broad cross-section of the people involved in the organisation's asset-related activities from data input to decision-makers, i.e. an end-to-end assessment. This should include contractors and other relevant third parties as appropriate.	Functional policy and/or strategy documents for performance or condition monitoring and measurement. The organisation's performance monitoring frameworks, balanced scorecards etc. Evidence of the reviews of any appropriate performance indicators and the action lists resulting from these reviews. Reports and trend analysis using performance and condition information. Evidence of the use of performance and condition information shaping improvements and supporting asset management strategy, objectives and plan(s).

Company Name
AMP Planning Period
Asset Management Standard Applied

The Lines Company Ltd
1 April 2017 – 31 March 2027

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/documented Information
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non-conformances is clear, unambiguous, understood and communicated?	2	The responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non-conformances are documented and outlined in TLC's Accidents/Incident Management Procedure and the Network Access and Operating Competency Procedure. The Accidents/Incident Management Procedure is communicated to employees during the company induction. The Network Access and Operating Competency Procedure is communicated during the network induction Process.	Accidents/Incident Management Procedure, Network Access and Operating Competency	Widely used AM standards require that the organisation establishes implements and maintains process(es) for the handling and investigation of failures incidents and non-conformities for assets and sets down a number of expectations. Specifically this question examines the requirement to define clearly responsibilities and authorities for these activities, and communicate these unambiguously to relevant people including external stakeholders if appropriate.	The organisation's safety and environment management team. The team with overall responsibility for the management of the assets. People who have appointed roles within the asset-related investigation procedure, from those who carry out the investigations to senior management who review the recommendations. Operational controllers responsible for managing the asset base under fault conditions and maintaining services to consumers. Contractors and other third parties as appropriate.	Process(es) and procedure(s) for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non-conformances. Documentation of assigned responsibilities and authority to employees. Job Descriptions, Audit reports. Common communication systems i.e. all Job Descriptions on Internet etc.
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	1	TLC recognises and understands the need for systematic checks, especially of the effectiveness of its asset management process. 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 audit requirements (e.g., the associated requirements of PAS 55:4.6.4 and its linkages to 4.7).	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit teams, together with key staff responsible 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 and the criteria by which it identified the appropriate audit personnel. Audit schedules, reports etc. 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 instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non-conformance?	2	Investigation and mitigation of asset-related failures, incidents and emergency situations and non-conformances are documented in TLC's Accidents/Incident Management Procedure and the Network Access and Operating Competency Procedure. As part of the accident/incident investigation a Root Cause Analysis (RCA) is conducted to identify the factors that resulted in the nature, the magnitude, the location, and the timing of the harmful outcomes (consequences) of one or more past events in order to identify what behaviours, actions, inactions, or conditions need to be changed to prevent recurrence of similar harmful outcomes and to identify the lessons to be learned to promote the achievement of better consequences.	Nonconformities and incidents are outline in operating procedure 12-appendix D. Root Cause Analysis is carried out on asset related failure.	Having investigated asset related failures, incidents and non-conformances, and taken action to mitigate their consequences, an organisation is required to implement preventative and corrective actions to address root causes. Incident and failure 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 preventative or corrective action 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, modification records. Asset management plan(s), investigation reports, audit reports, improvement programmes and projects. Recorded changes to asset management procedure(s) and process(es). Condition and performance reviews. Maintenance reviews
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset related risks and the performance and condition of assets and asset systems across the whole life cycle?	2	TLC is continually assessing and improving the performance, condition, related risk, and cost of assets across their whole lifecycle. TLC has performance measures in place to meet regulatory requirement, to ensure each customer is receiving the promised standard of service and to measure the performance of the assets both physically and financially. Where gaps, poor performance and non-conformance exist TLC instigate appropriate corrective and/or preventative action to eliminate or prevent the causes. Where performance targets are achieved TLC finds new and innovative ways to maintain or improve asset performance both financially and physically.	Performance Target, Basix 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. Specifically there is a 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 mechanisms rather than 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 improvement. Evidence of new techniques being explored and implemented. Changes in procedure(s) and process(es) reflecting improved use of optimisation tools/techniques and available information. Evidence of working parties and research.

Company Name	The Lines Company Ltd
AMP Planning Period	1 April 2017 – 31 March 2027
Asset Management Standard Applied	

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	User Guidance	Why	Who	Record/document Information
115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology and practices, and evaluate their potential benefit to the organisation?	2	TLC acquires knowledge about new asset management related technology and practices by researching international papers and standard to identify benchmarks for asset management practices, as well as sending engineering staff on conferences and forums to gain knowledge of new and innovative asset management techniques and practices. TLC also actively engage in industry discussions with other networking companies, professional bodies and regulatory bodies 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 boundaries and knowledge base to look at what 'new things are on the market'. These new things can include equipment, process(es), tools, etc. An organisation which does this (e.g., by the PAS 55 s 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 capabilities. The organisation will be able to demonstrate that it identifies any such opportunities to improve, evaluates 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 its continual improvement. People who monitor the various items 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 professional forums. Evidence of correspondence relating to knowledge acquisition. Examples of change implementation and evaluation of new tools, and techniques linked to asset management strategy and objectives.