Attachment 5.05

Strategic delivery and workforce plans for 2015-19 (PUBLIC)

January 2015

Ausgrid revised regulatory proposal attachment

Attachment 5.05 is comprised of three documents relating to Ausgrid's workforce planning for the 2015-19 period. These documents are:

5.05 A – Overview of the Strategic Delivery and Workforce Plans for 2015-19 (PUBLIC)

5.05 B – Strategic Delivery Plan for the Network Maintenance and Capital Portfolio (PUBLIC)

5.05 C – Strategic Workforce Plan (PUBLIC)

Attachment 5.05: Strategic Delivery and Workforce Plans for 2015-19

Attachment 5.05 is comprised of three documents relating to Ausgrid's workforce planning for the 2015-19 period. These documents are:

- Overview of the Strategic Delivery and Workforce Plans for 2015-19 (pages 3-15);
- Strategic Delivery Plan for the Network Maintenance and Capital Portfolio (pages 17-57); and
- Strategic Workforce Plan (pages 59-109).

Overview of the Strategic Delivery and Workforce Plans for 2015 – 19

December 2014

Overview of the Strategic Delivery and Workforce Plans for 2015 – 19

Contents

1 Introduction

Since 2013, Ausgrid under the guidance of Networks NSW has undertaken steps to implement a consistent and routine delivery and workforce planning processes across Ausgrid, Endeavour and Essential. This process will involve the periodic generating of a:

- Strategic Delivery Plan (SDP): a plan documenting Ausgrid's ability to meet identified network capital and maintenance needs based on a range of existing and proposed resource/delivery supply strategies.
- Strategic Workforce Plan (SWP): a plan matching organisational wide supply of labour against demand for labour (demand is determined using a combination of the SDP and non-network business cases). This plan ultimately determines net oversupply / undersupply of labour.

This routine workforce planning process will seek to generate periodic analysis and reporting which can be used to:

- Identify skill and or staff shortages which may affect delivery of certain investment programs.
- Identify skill or staff excesses in relation to the delivery of investment programs and will either create the opportunity for redeployment or reductions in the permanent workforce.
- Help identify opportunities and issues for external delivery of investment programs which will reduce ongoing pressures on Ausgrid's workforce and/or improve overall efficiency and cost outcomes.
- Assess opportunities for blended delivery where programs or projects would benefit from a mix of delivery by both Ausgrid's 'business as usual' approach and fully external in order to benchmark and foster competitive tensions to drive additional efficiency gains to those already identified.
- Identify surpluses or shortages of staff in 'back-office' support areas which may drive further efficiencies if they arise or impact support operations respectively.
- Assess whether current labour supply can be utilised to facilitate new operations while also continuing to deliver core operations.

Prior to the implementation of this business as usual process, Ausgrid undertook its own delivery and workforce planning at different milestones based on its identification of key events, trends or changes to cost drivers which could materially warrant a change to workforce size and composition. This ensured that Ausgrid's supply of labour and contracts could meet demand for either step-ups or step downs, or changes in emphasis in investment programs. The 2015-19 SDP and SWP provided after this overview not only serve the purpose of providing an update at a key milestone but also demonstrates our progress towards embedding the NNSW routine delivery and workforce planning process.

2 Timing of the business as usual (BAU) updating of the Strategic Delivery Plan (SDP) and the Strategic Workforce Plan (SWP)

During the time that Ausgrid has started working on implementing a routine delivery and workforce planning process, it has also bedded down its Portfolio Investment Plan (PIP) procedures. The PIP is a Networks NSW initiative used to consolidate and prioritise system capital investment and operational maintenance needs across all three NSW DNSPs. The five year PIP is updated every five years to reflect the regulatory proposals put forward by the DNSPs and then twice every financial year to either reflect a change or reprioritisation of projects, and programs based on new information. The first of these annual updates occur in November in order to allow for mid-year assessment of investment progress and therefore to allow for a reallocation of resources based on reassessed needs. The second update occurs in March which forms the foundation of the following financial year's investment program as well as the investment components of Ausgrid's Statement of Corporate Intent (in effect its annual budget).

Ausgrid has decided to align its annual delivery and workforce planning updates with the update of the PIP. This is because the PIP drives the overwhelming proportion of Ausgrid's business operations and therefore the majority of its resource needs. Ausgrid intends to provide at least two updates annually to reflect changes in the PIP. These updates will occur in December and June each financial year so that they can capture the finalisation of changes to the most recent PIP. The timing of these updates will allow for a mid-year assessment of needs to deliver the annual investment program and an end of year assessment of resource needs to deliver the following year's investment program respectively. Updates of 'back-office' and some indirect components of Alternative Control Services operations will also take place in order to provide feed-in to the updating of some opex components of Ausgrid's Statement of Corporate Intent.

3 Implementation of Ausgrid's BAU SDP and SWP approaches

Date	Timeline for the Implementation of a Business As Usual Delivery & Strategic Workforce Planning
June 2013	First SDP is completed by Ausgrid's Project Management Office (PMO) utilising a common Networks NSW framework.
March 2014	Networks NSW issued a high level framework that Ausgrid was to follow in designing and implementing a routine workforce planning process.
April 2014	Ausgrid establishes a Strategic Workforce Planning Working Group to begin implementing the new workforce planning process. This is in recognition of changing business needs particularly in the areas of network investment. It is also to facilitate further possible cost reductions at different points in time.
June 2014	Decision to implement an automated corporate system based approach which can facilitate timely annual updating of workforce planning needs based on scenarios/changes to key variables decided upon by different areas of the business.
August 2014	Decision to produce an updated five year workforce planning document in conjunction with the implementation of this business as usual approach. This would help translate Ausgrid's regulatory proposal into clear staffing resource plans for the wider business to follow. This is expected to be finished by February or March 2015.
October 2014	Ausgrid decides to submit its five year SDP and SWP as part of its Revised Regulatory Proposal to the AER due to criticisms by the AER and its consultants following Ausgrid's submission of its Initial Proposal in May 2014. The decision to finalise and submit the five year plan in January is based on fast tracked interim implementation.
January 2015	Ausgrid expects to have a finalised 2015-19 SDP and SWP to submit to the AER. Further work will be required to automate the workforce planning process (in SAP). The document provided to the AER will form the five year workforce planning view built into this ongoing process.
May 2015	Automated business as usual strategic workforce planning process is expected to be finalised.
June 2015	First annual update of the SWP and SDP will occur for the 2015-19 period incorporating the final determination.
August 2015	Ausgrid expects to have bedded down its business as usual strategic workforce planning process across all divisions. Refinements of the automated process will take place and clear instructive guidelines and reporting templates for periodic analysis will finalised.
December 2015	Second annual update of the SWP will occur for the 2015-19 period. Following updates will be made every six months.

4 Purpose of the 2015 – 19 Strategic Delivery and Strategic Workforce Plan

Ausgrid's 2015-19 SDP and SWP has been designed to coincide with Ausgrid's Regulatory Proposal to the Australian Energy Regulator (AER) and the finalisation of Ausgrid's five year Portfolio Investment Plan (PIP) which also underpins the system capital expenditure and maintenance opex components of this proposal. The development of the five year SDP and SWP sought to achieve the following goals:

- identify whether Ausgrid can implement its system capex and maintenance needs over 2015-19;
- identify whether Ausgrid can implement its supporting capital and maintenance needs over 2015-19;
- identify whether Ausgrid has sufficient resources and skill transference capability to deliver public lighting, ancillary services and metering functions;
- identify whether Ausgrid will have sufficient resources to deliver ongoing 'back-office' support needs in line with its business and legal obligations;
- in turn estimate the number of excess or inadequate staff/skill shortages that will exist per annum; and
- Facilitate the consideration of options to address identified issues and implementation plans for the recommended strategies.

5 Basis of the 2015-19 Strategic Delivery and Strategic Workforce Plans

In formulating Ausgrid's 2015-19 SDP and SWP, Ausgrid has used labour components from its five year expenditure forecasts and associated business plans, extrapolated that data forward based on existing and proposed resourcing strategies, productivity initiatives etc. to determine the demand for labour per task / area over the 2015-19 period. It has then utilised comprehensive employee data to determine labour supply available for each task / area. In determining the positioning of its labour demand and supply curves, Ausgrid has converted these demand and supply metrics into a full-time equivalent (FTE) basis. This allows for a standardised comparison of labour supply and demand while also taking into account different working arrangements common across most organisations. Refer to Section 1.8 for an overview of how workforce planning outcomes are derived. The high level results of this demand and supply analysis are provided in the table and graph below.

Graph – Total Demand and Supply of FTE's 2015 - 19

Table – Basis of the 2015-19 Strategic Delivery and Strategic Workforce Plans

Financial Year	2015	2016	2017	2018	2019
Network Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Supply (Overtime)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply Ausgrid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand Ausgrid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Excess / (Under Supply)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
GAP Filled by External Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

In generating its 2015-19 SDP and SWP, Ausgrid has also considered the commitments of its management to drive even greater labour productivity over the 2015-19 period. This labour productivity has been factored into Ausgrid's Revised Regulatory Proposal to the AER for 2015-19 and subsequently into both the SDP and SWP. These labour productivity commitments and the estimated resulting reduction in FTE employees funded by Standard Control expenditure provided below.

Table – Labour productivity commitments and estimated reductions

Financial Year	2015	2016	2017	2018	2019
Labour Productivity Improvements	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Standard Control FTE Reduction	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Standard Control FTE Headcount	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

6 Key findings of the 2015-19 Strategic Delivery and Strategic Workforce Plans

In developing its 2015-19 SDP and SWP, Ausgrid has undertaken a detailed review of its workforce size and associated skill sets as of November 2014, and determined whether these resources are sufficient to meet its forecast network and ongoing business needs. Ausgrid did this by firstly considering the demand from network investment and maintenance which determines the majority of its operations and which is explained in greater detail in the SDP attachment below this overview. It then factored the SDP labour requirements into a wider strategic workforce plan (SWP) attached below the SDP which matches total forecast demand for labour with supply across the entire Ausgrid organisation.

The key findings generated out of these plans for the 2015-19 period, were that Ausgrid as of November 2014 has a:

- Overall sufficient internal and external supply capability and flexibility to efficiently meet forecast demand over 2015-19. This includes the consideration of:
  - WH&S obligations and safety priority for employees and contractors;
  - required number of staff to deliver certain pieces of work in line with best practices;
  - cross-skill sets of staff which allow for the transference of staff across multiple operations;
  - the overlap between Standard and Alternative Control Services programs;
  - the planned quantity of staff in line with legally binding terms of employment;
  - the ongoing continuous improvement plans in productivity and efficiency; and
  - the ability to further reduce duplicated skills sets as the period progresses.
- Sufficient workforce supply in field related and engineering roles to deliver its forecast system capex and maintenance needs as consolidated in Ausgrid's Portfolio Investment Plan (PIP). The PIP was also used to underpin Ausgrid's Revised Regulatory Proposal to the AER in January 2015.
- Sufficient workforce to deliver peaks in capex expected in FY2016 and FY2017 as well as the growth in maintenance expenditure peaking in FY2019.
- Sufficient number of staff in support roles to deliver supporting capital and maintenance needs over the 2015-19 period as identified in Ausgrid's Regulatory Proposal to the AER. These needs relate to fleet, non-system property and Information Communications Technology (ICT) plans.
- Sufficient number of staff to deliver expected Alternative Control Services (public lighting, ancillary services and metering) while maintaining its ability to deliver expected Standard Control Services.
- Sufficient number of staff with appropriate skill sets in 'back-office' functions which would continue to allow Ausgrid to meets its business and legal obligations.

[redacted]

[redacted]

The key findings from the demand analysis undertaken for the five year period are provided in the graphs below which show that overall demand for staff and skill sets wavers across the period [redacted]

A prime driver is the changing nature of work forecast in the network component of Ausgrid's operations. This fluctuation in demand is driven by the mix of programs, scheduling of major projects at any one time and the need to outsource labour for certain works. For the same reasons just mentioned for driving fluctuations in the

demand of labour, demand will not necessarily correlate with the forecast expenditure profile over the same period.

Graph – Hours Demanded by Operation

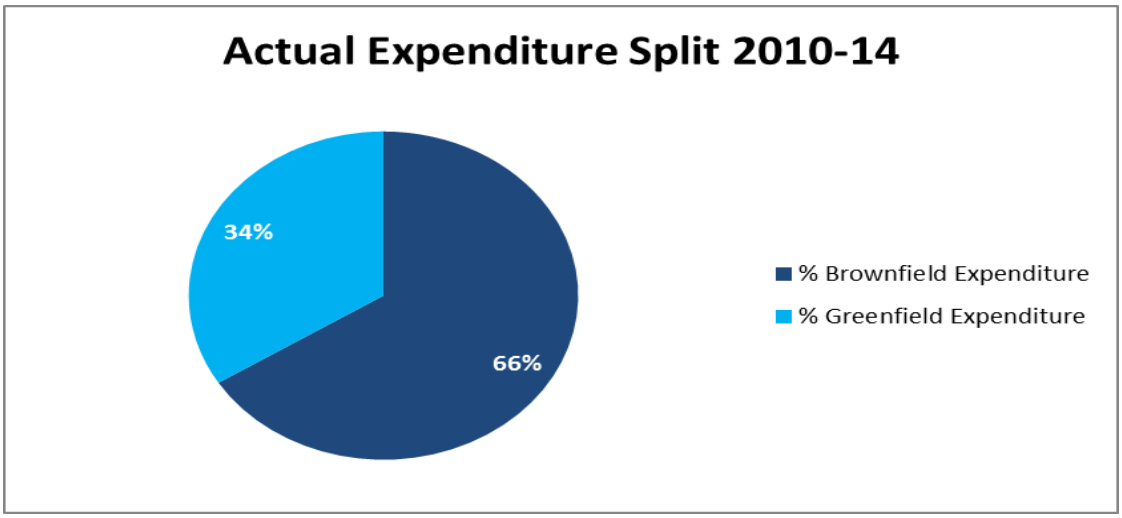
Graph – Full-Time Employees Demanded by Operation

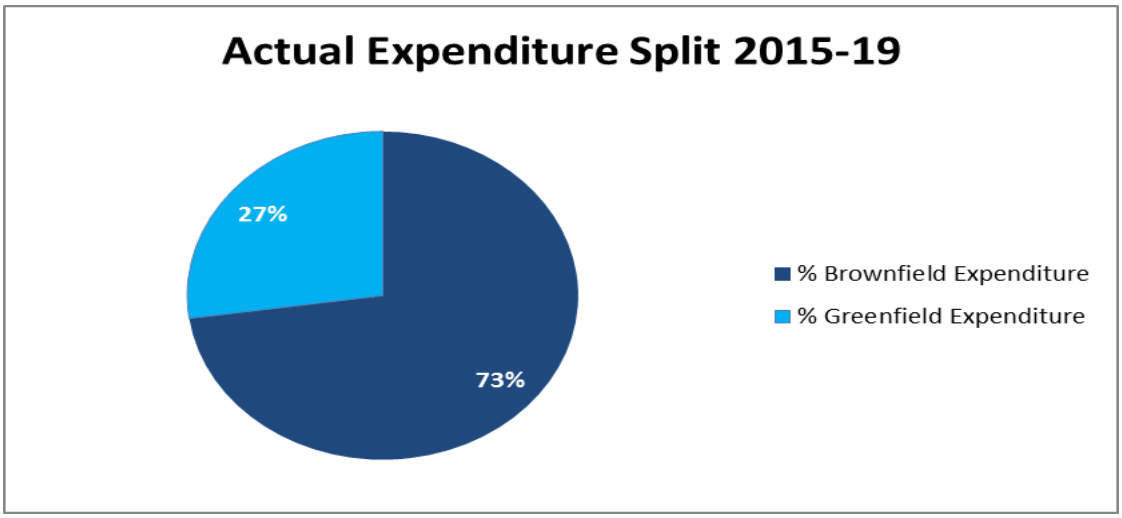
A key determinant of network labour demanded is the mix of works between Greenfield and Brownfield works that take place during a given period. Another determinant is the mix between sub-transmission and distribution works which take place. Ausgrid has typically utilised a greater proportion of external labour and blended delivery when it has undertaken transmission or sub-transmission works in Greenfield situations. This is because the external market is typically better developed in the skills required to deliver this type of work, and has allowed Ausgrid to achieve its investment needs on a timelier basis. This was particularly the case in 2010-14 regulatory period in which Ausgrid undertook a series of large major works which did not involve working around existing legacy infrastructure. Also brownfield works are more complex with greater safety and network risks which are more suited to a highly skilled and flexible workforce operating collaboratively rather than contractually.

Going forward for the 2015-19 period, Ausgrid will be undertaking a greater number of smaller distribution works, mainly in brownfield areas. The estimated difference in the split between sub-transmission and distribution expenditure, and Greenfield and Brownfield works between 2010-14 and 2015-19 periods. Total expenditure incurred on brownfield works will [redacted] as a ratio of overall expenditure. Furthermore, sub-transmission expenditure has [redacted] as a ratio of overall expenditure. Due to external labour supply issues with some brownfield distribution works and Ausgrid's available pool of skilled workers in these areas, there will be a greater proportional demand relative to expenditure for Ausgrid staff to deliver the forecast investment program over 2015-19. This will mean that while Ausgrid will steadily reduce its staff for excess labour identified, it will continue to require a significant number of its own staff to deliver this mix of work.

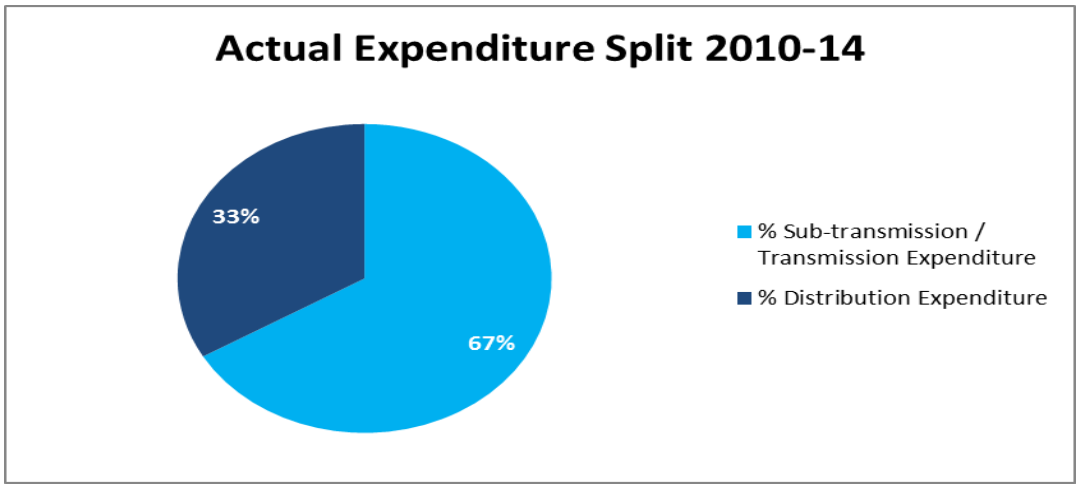
Ausgrid will continue to utilise outsourcing for works which are clear scope and low risk and for which it has established effective working relationships with external parties especially over the past five years. [redacted]

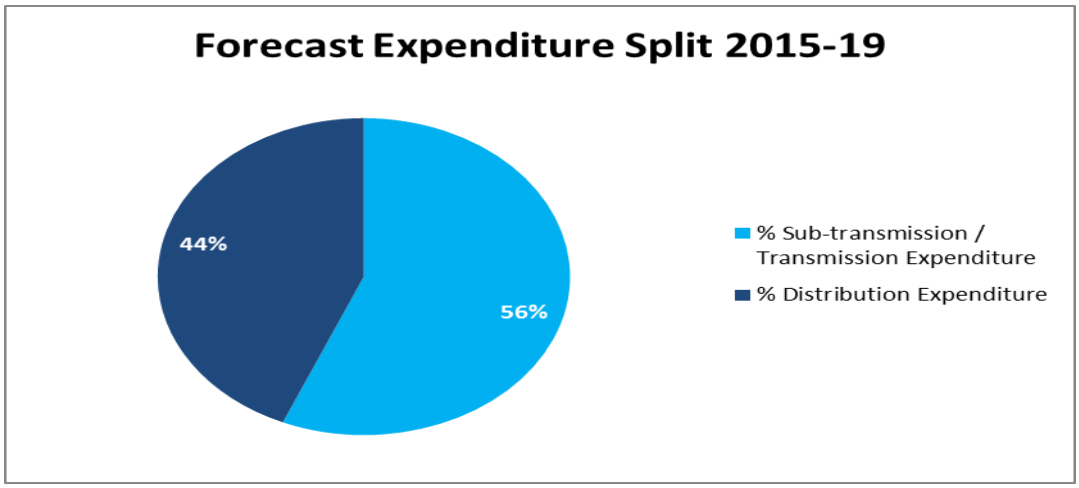
Graph – Estimated Split of Greenfield and Brownfield Capital Expenditure 2010-19





Graph – Estimated Split between Sub-Transmission and Distribution Expenditure 2010-19



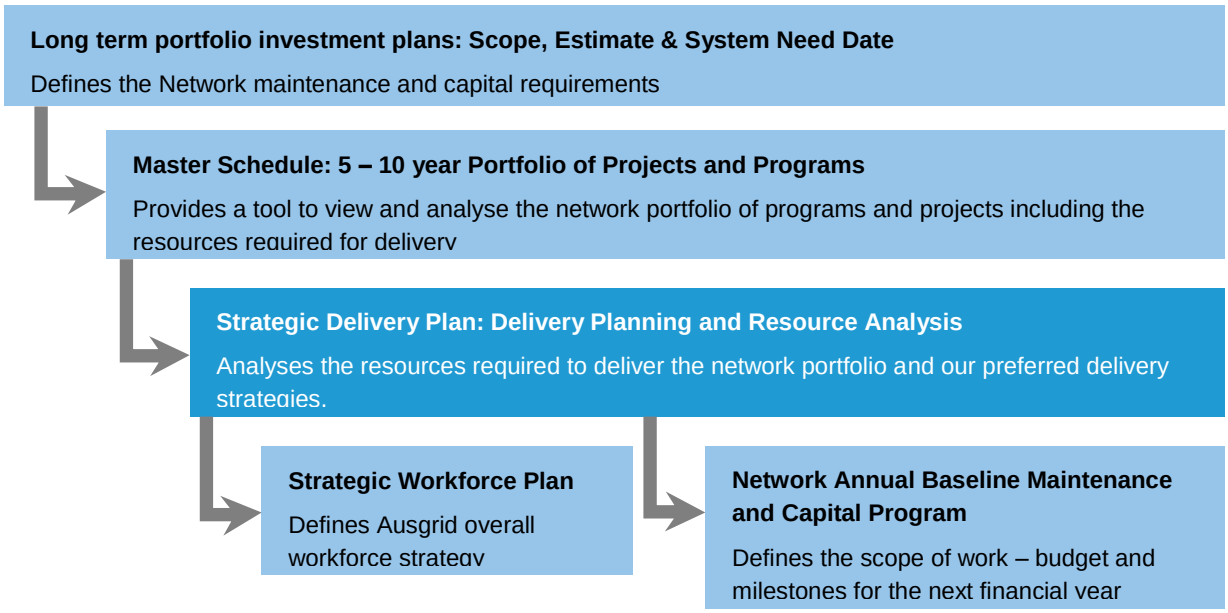


7 How Ausgrid estimated its 2015 – 19 resource needs

In determining its resource needs over the 2015-19 period, Ausgrid has relied on its capex, opex and alternative control forecasts submitted to the AER. These overall forecasts are built from individual estimates of plans and programs forecast by expert areas of the business. As mentioned above, Ausgrid's five year SDP and SWP are designed to align with Ausgrid's Revised Regulatory Proposal given to the AER. This then will be reviewed at least every six months in line with changes to key feed-ins such as the PIP, [redacted] to determine Ausgrid's labour demand at that point in time. The five year SDP was first developed as this concerns direct investment in the network which drives the majority of Ausgrid's operations. The SDP was then fed into wider strategic workforce planning for Ausgrid which is captured in the SWP.

A summary of the flow from regulatory and updated PIP information into Ausgrid's different workforce planning tools is provided in the diagram at the end of this overview.

Diagram – Integration of Portfolio Investment Planning, SDP and SWP Process



As previously mentioned, Ausgrid has utilised a combination of its forecasts given to the AER for the 2015-19 period as well as internal business cases based on the submission as the basis of its workforce planning. The labour components of these forecasts and business cases were utilised to determine the required staff numbers and hours required to meet these labour components. These staff numbers and hours were grouped by 'job families' to account for specialist skill sets and the ability to transfer skills across multiple operations of the organisation. This analysis formed Ausgrid's labour demand for the 2015-19 period. In determining the labour supply, Ausgrid utilised detailed employee data to determine available staff numbers and hours by the same job families described above. It also considered the ability or need to engage contracted services to fulfil some of this labour supply. A comparison of demand and supply using GAP analysis allowed Ausgrid to determine deliverability of operations as well as excess or surplus staff. A summary of the steps undertaken in performing this GAP analysis is presented in the diagram at the end of this overview.

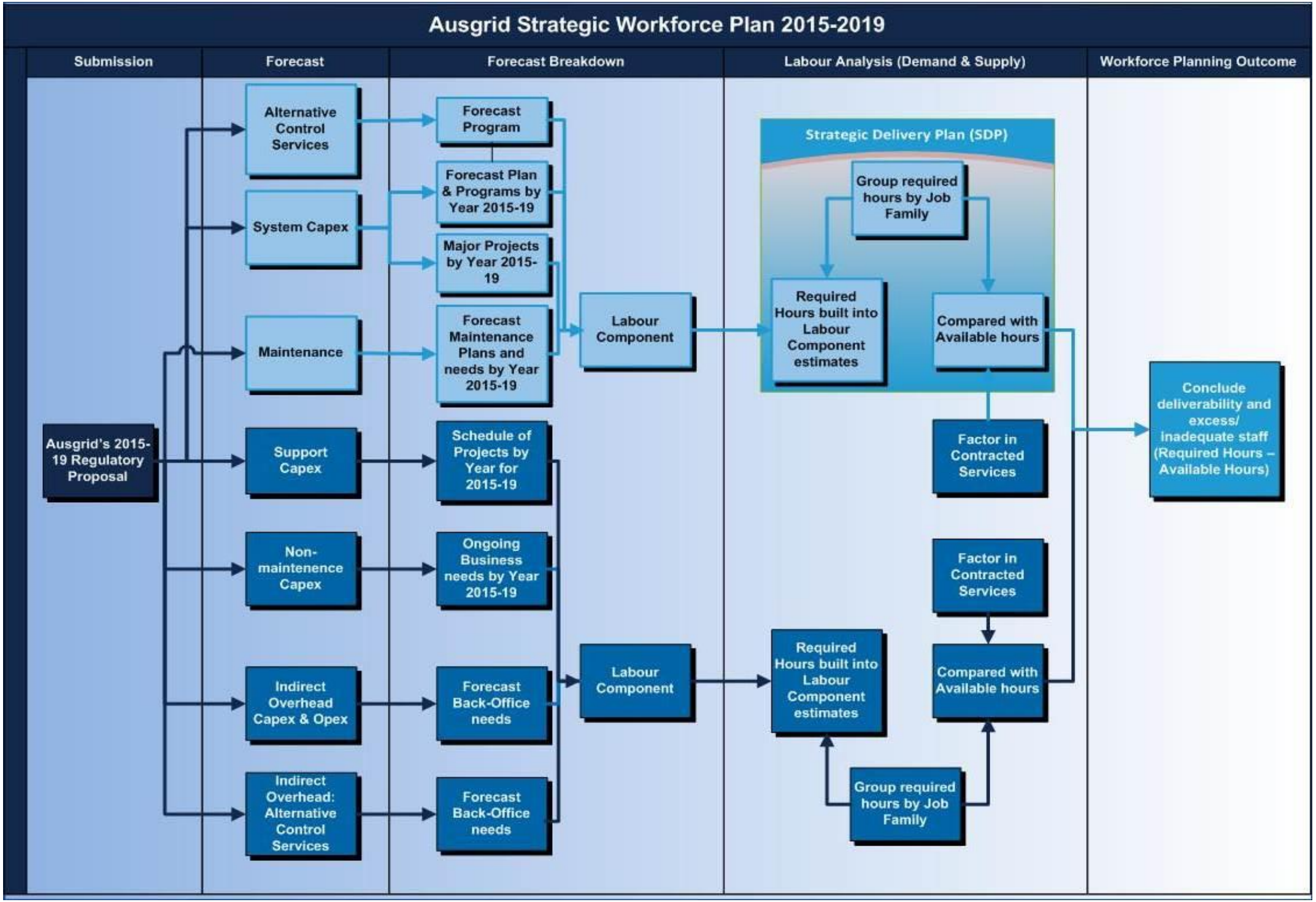
8 Remainder of this attachment

The remainder of this attachment is comprised of two separate documents which have been used to underpin this overview. These are:

- Ausgrid's 2015-19 Strategic Delivery Plan (SDP) which details the delivery plans (internal and external) for direct investment in the network (including system capex, system maintenance, public lighting, metering and ancillary services).
- Ausgrid's 2015-19 SWP which details workforce planning for direct and support functions (including non-system capex, non-maintenance opex and support costs associated with Alternative Control Services).

The key assumptions utilised in determining labour supply demand and supply are clearly outlined and explained in each document.

Diagram – Ausgrid Strategic Workforce Plan 2015-2019


Ausgrid Strategic Workforce Plan 2015-2019
Submission
Forecast
Forecast Breakdown
Labour Analysis (Demand & Supply)
Workforce Planning Outcome
Ausgrid's 2015-19 Regulatory Proposal
Alternative Control Services
System Capex
Maintenance
Support Capex
Non-maintenence Capex
Indirect Overhead Capex & Opex
Indirect Overhead: Alternative Control Services
Forecast Program
Forecast Plan & Programs by Year 2015-19
Major Projects by Year 2015-19
Forecast Maintenance Plans and needs by Year 2015-19
Schedule of Projects by Year for 2015-19
Ongoing Business needs by Year 2015-19
Forecast Back-Office needs
Forecast Back-Office needs
Labour Component
Labour Component
Strategic Delivery Plan (SDP)
Group required hours by Job Family
Required Hours built into Labour Component estimates
Compared with Available hours
Factor in Contracted Services
Factor in Contracted Services
Required Hours built into Labour Component estimates
Compared with Available hours
Group required hours by Job Family
Conclude deliverability and excess/ inadequate staff (Required Hours – Available Hours)

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Strategic Delivery Plan for the Network Maintenance and Capital Portfolio

December 2014

Strategic Delivery Plan for the Network Maintenance and Capital Portfolio

December 2014

Contents

1 Strategic Delivery Plan Definitions

Table – Definitions

Abbreviation / Term	Definition
AER	Australian Energy Regulator
BPC	Business Planning & Consolidation application used to support planning, budgeting, and forecasting within Ausgrid.
Current Regulatory Period	The regulatory control period commencing 1 July 2014 to 30 June 2019. Also referred to as the 2014/15 to 2018/19 regulatory period.
FTE	Full Time Equivalent Employees
GIS	Geographic Information System
Job Family	Job Families categorise functions into high level groupings, typically focusing on a common feature that distinguish them from other functions
Job Category	Job Categories align to the Job Families through the identification of positions into high level functions, typically focusing on a common feature that distinguishes then from other positions
Long Term Plans	Strategic plans that underpin the network capital programs, defining demands on the network and forecast investment requirements
MoU	Memorandum of Understanding
NLOB	Network Line of Business
Network Portfolio	Network portfolio comprises network maintenance and capital programs
Operating Divisions	Engineering, Network Development and Network Operations
PMO Orders	Plant maintenance order types in SAP including PMO 1 – Planned PMO 2 – Corrective PMO 3 – Breakdown PMO 4 – Nature Induced PMO 5 – 3rd Party Damage PMO 8 – Non-Direct PMO 9 – Engineering Support
Previous Regulatory Period	The regulatory control period commencing 1 July 2009 to 30 June 2014. Also referred to as the 2009/10 to 2013/14 regulatory period
Primavera	Ausgrid's project planning and management solution
Priority Investment Plan	Prioritised network capital investment plan prepared by Engineering and submitted to Networks NSW
RRP	Revised Regulatory Proposal
SAP	Enterprise System used by Ausgrid covering financial, human resource and asset management information
SCI	The SCI or Statement of Corporate Intent is a performance agreement between the Board and senior management of Ausgrid and its shareholders. It is a summation of the business'

	strategic and performance commitments
SDP	Strategic Delivery Plan
SRP	Substantive Regulatory Proposal
($s2014)	Real dollars. This denotes the dollar terms as at 30 June 2014.

2 Executive Summary

Purpose

The purpose of this Strategic Delivery Plan (SDP) is to outline the scope of the network related projects and programs identified by the Chief Engineer, identify what level of resources are needed to deliver the overall portfolio of works, and define the most efficient strategy for these projects and programs using a combination of internal and external delivery resources.

To achieve the requirements of the network maintenance and capital investment portfolio for the 2014/15 to 2018/19 regulatory period, Ausgrid needs to deliver a network maintenance program of around $1,346m and a capital program of around $3,728m ($s 2014). Whilst maintenance requirements are forecast to remain relatively stable, the level of capital investment is reducing from a peak in recent years of around $1,600m to a lower and more sustainable position going forward of around $746m per annum. This SDP considers both the reduced size and changing nature of the portfolio over the current regulatory period and outer years, and the impact of this on delivery and resource requirements. In doing this the SDP supports the Ausgrid Priority Plan and the Ausgrid Strategic Workforce Plan.

The nature of the investment program is changing with an increased focus on delivery of capital programs for the foreseeable future, and a significantly reduced need to deliver major greenfield projects. We are adjusting our delivery strategy for the current period to take account of the changing program, with an increased focus on demonstrating efficiency and competiveness, using a blended delivery approach across all areas of the program.

The pursuit of delivery efficiencies and increased productivity in our capital expenditure program is being carried out in consultation with our workforce to ensure relevant knowledge on a particular issue from across Ausgrid is leveraged to obtain the best solution to a problem.

The current and planned combination of internal workforce changes, ongoing contracting and progressive implementation of blended delivery can efficiently deliver the proposed program. Further development of the work underpinning this plan is being undertaken to support the business in order to achieve an efficient, flexible and sustainable delivery of services to customers for future periods.

We will regularly review our progress, together with any changes to the business environment, and tactically fine tune our delivery strategy going forward.

3 Introduction to Strategic Delivery Plan

The Strategic Delivery Plan (SDP)

The SDP assesses the delivery requirements for the network capital and maintenance portfolio over the 5 years which were embodied in the SCI and the substantive regulatory submission. The potential impact of recent refinements to these plans is also assessed at a high level.

This plan has been prepared to:

- Provide an outline of the forecast network capital, maintenance and other operational demands, focussing on those which impact on the three key network divisions – Engineering, Network Development and Network Operations;
- Review the implications of the planned scheduling of projects and programs underpinning this demand to:
  - Facilitate delivery to agreed scope and timeframes;
  - Address identified risks;
  - Optimise internal resource allocation;
  - Identify areas in which external resources are required to support delivery;
  - Identify areas where benchmarking is required; and
  - Provide data that validates current and proposed resource strategies and informs the future sustainable network workforce requirements.
- To provide input to the Ausgrid Strategic Workforce Plan; and
- Provide key stakeholders with evidence of our competitiveness and capability to efficiently deliver the portfolio.

The SDP is one of several management tools intended to support Ausgrid's business plan objectives, which includes:

- Aligning our workforce plan to a reduced and changing capital program; and
- Developing our sustainability program through:
  - Efficient capital investment;
  - Improved labour productivity;
  - Blended delivery;
  - Efficient network support costs; and
  - A competitive Enterprise Agreement.

4 Structure and Content of SDP

The SDP is structured as follows:

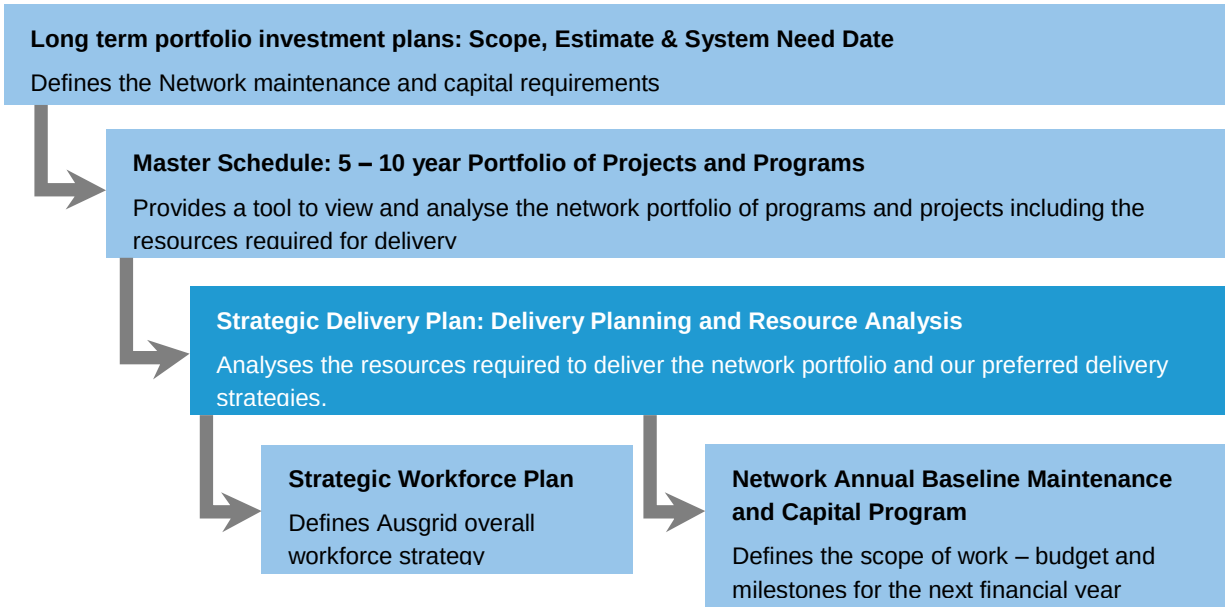
Table – Strategic Delivery Plan Structure

Section	Content
Introduction	Defines the purpose and structure of the SDP.
Historic View of Program Delivery	Provides an overview of network investments in the past 5 to 10 years and associated delivery strategies utilised by Ausgrid.
Scope of the Network Maintenance and Capital Portfolio	Details the structure and scope of the network maintenance and capital programs.
Framework for Development of the SDP	Provides an overview of the process used to assess network related demand.
Network Resource Demand and Supply	Provides an overview of resource demand and supply and key risks.
Gap Analysis	Highlights key gaps in resourcing.
Preferred Delivery Strategy	Provides an overview of current and proposed delivery models.
Next Steps	Outlines key priorities and actions for further developing this plan.

5 Management and Review of the SDP

The development and review of long term plans by the Chief Engineer is the key input to the development of the SDP. In turn, the SDP provides input to Ausgrid's Strategic Workforce Plan. The SDP also assists in the planning of the detailed annual program of work and budget for the following financial year.

Diagram – Integration of Portfolio Investment Planning, SDP and SWP



The SDP will be subject to an annual review and update. At this stage it is envisaged that the SDP will be reviewed annually and the implications of changes to our capital and maintenance programs will be assessed on a six monthly basis, aligned to our business planning cycle.

The timing of the SDP annual update and bi-annual reviews will generally be as follows:

Table – Strategic Delivery Plan Calendar

Month	Purpose	Governance
November	**Annual SDP update**	
	Alignment with draft SCI and updated plans from Engineering. Provide input to Ausgrid's Strategic Workforce Plan. Alignment with next year's proposed network maintenance and capital programs (and budget).	Present to the Blended Delivery Steering Committee and Strategic Workforce Planning Steering Committee for endorsement and then approval by the Chief Operating Officer
January/ February and April/May	**Quarterly portfolio review**	
	Major changes to long terms plans and forecasts flagged if required.	Present potential implications of major changes to GM-ND Portfolio Meeting
July/August	**End of year portfolio review and SDP update if required**	
	Confirmation of reset to commence delivery at start of the new financial year.	Present to the Blended Delivery Steering Committee and Workforce Planning Steering Committee for endorsement and then approval by the Chief Operating Officer

6 Historic View of Program Delivery

The last decade has seen a sustained effort in the ongoing maintenance, capacity, replacement and augmentation of the electricity supply network.

There has been a steady, underlying demand related to the maintenance of the network, with some increase experienced from 2006 as measures were taken to improve the maintenance culture of the organisation. This change in culture was brought about through a concerted strategic asset management effort by the previous Network and Enerserve Divisions to build a shared view of the importance of planning and delivery of the maintenance and replacement activities.

Formal signed agreements between the divisions were developed in this period to articulate the responsibilities and accountabilities with a view to achieving agreed maintenance targets. In previous periods, maintenance completion rates were frequently running below target. Since then, completion rates of 95 – 100% of maintenance targets have consistently been achieved and corrective backlogs have been significantly reduced.

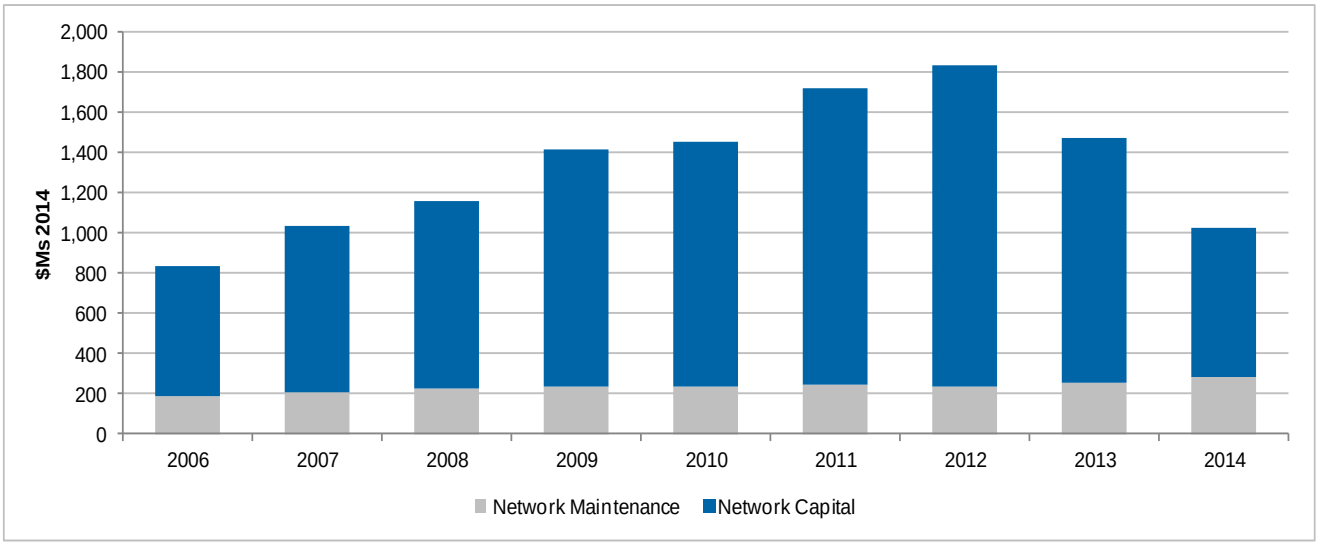
In the same period, system capital increased significantly, with expenditure peaking in 2012 as the organisation sought to address:

- Deterioration of existing assets;
- Compliance with safety, environmental and infrastructure security standards;
- Growing demand for customer connections;
- Growth in peak demands; and
- New licence condition, reliability standards.

Significant efforts were also made during this period to improve both the robustness of our planning and investment governance decision making processes.

The combined impact of these investment needs over the last decade can be seen below:

Graph – Network Maintenance and Capital Expenditure

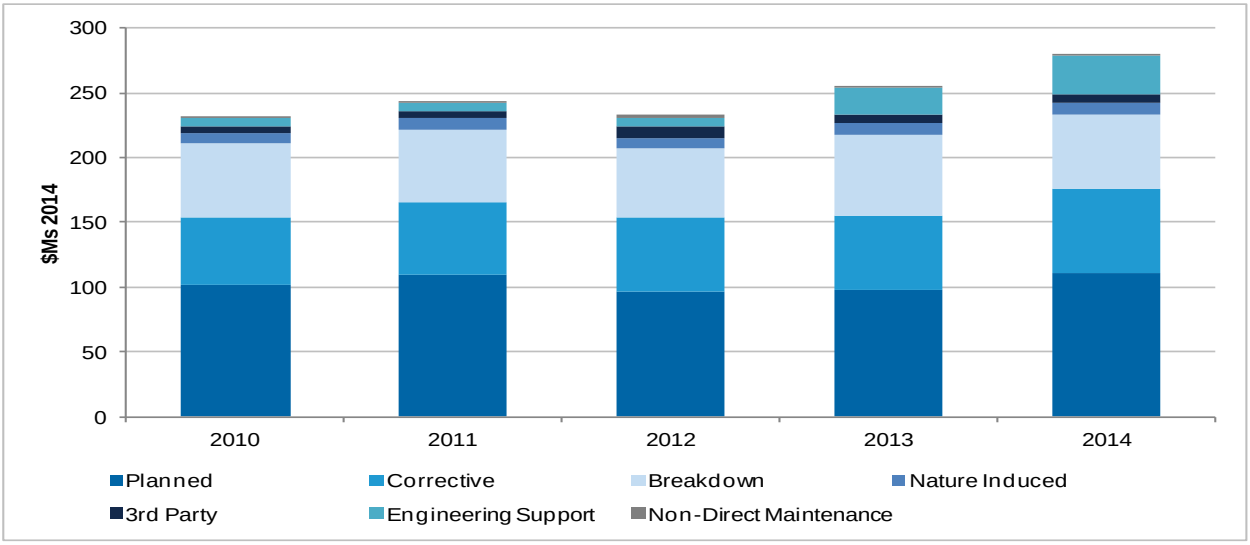


The underlying drivers of demand have had a significant impact on both the internal and external resources utilised by the organisation to deliver its key programs of work. In particular, the 2009/10 to 2013/14 regulatory period saw a wide range of strategies used to deal with the peaks in resource demand driven largely by the increase in capital works.

Throughout the previous period, maintenance expenditure remained relatively stable, with some increases in 2014 in both planned and corrective maintenance, as some backlogs were addressed, and additional line inspections including LiDAR and thermovision, were undertaken. Engineering support costs have also increased in recent years, with an increased focus on capturing more asset management information on network related activities. Forward forecasts of demand have been based on 2012/13 as the most representative year.

Graph – Maintenance by Investment Type

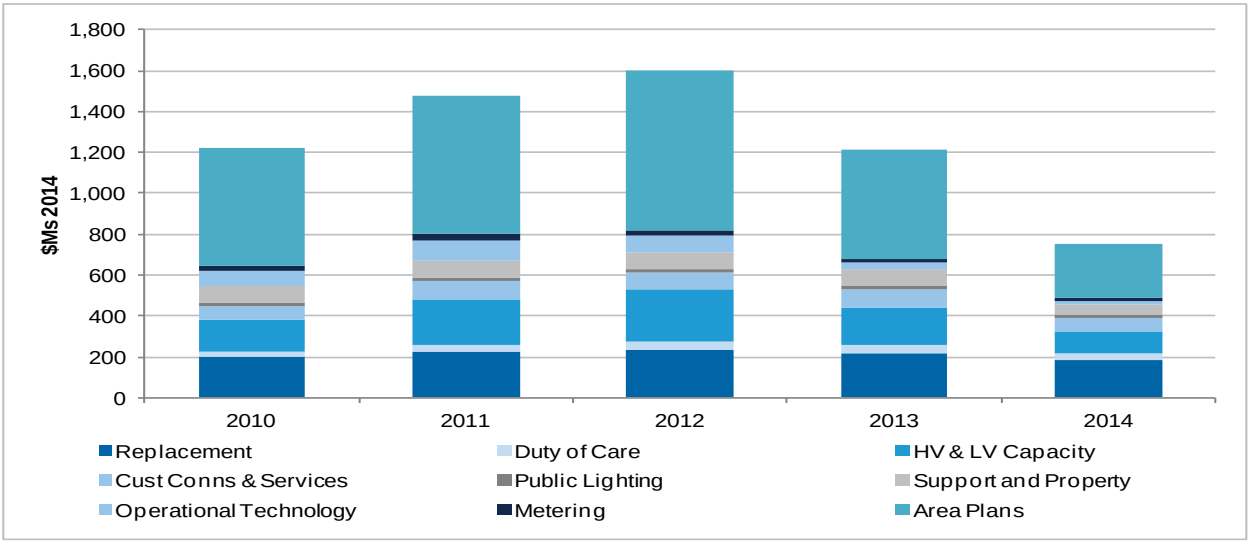
* 2013 has been used as the baseline year for forecasting demand



While all key capital programs of work have increased over the last decade, large scale investments identified through the area planning process saw the biggest growth in expenditure. These investments included works for new capacity and/or replacement of those assets where replacement was significant enough to trigger enhancement of the capacity of assets at the same time (i.e. 132kV oil filled cables, 33kV gas filled cables and 11kV switchgear). The mix of the capital program, particularly in the last five years, also impacted the nature of the skills required for delivery over this period.

Graph – Capital Investment by Long Term Plan

* Area Plan Investment peaked in 2012 at $787m, falling to $264 in 2014. Replacement Expenditure has averaged at $213p.a.



The previous regulatory period saw over 40 new major substation developments constructed under the area plan strategies, with half of this activity centred in the North region.

7 Delivery Strategies

A mix of resourcing strategies, reflective of the business environment, was used to facilitate the delivery of the network maintenance and capital programs over the last 5 to 10 years. These were to:

- Increase internal capacity through the targeted recruitment and training in critical skilled resource areas;
- Increase internal capacity and productivity through the targeted utilisation of overtime;
- Increase internal capacity through the phased withdrawal from the external and contestable works businesses;
- Improve labour productivity and investment planning efficiency through works coordination and technology;
- Increase external delivery of business as usual contract works via establishment of competitive panel arrangements;
- Form alliance partnerships to augment and facilitate the delivery of major projects; and
- Utilise a mixture of additional labour hire and contracted services to meet other peak overflow demands.

Increase in Internal Capacity and Capability

Significant workforce analysis was carried out in the key operating division at the time, Distribution Operations and Reliability, from the mid 2000's to analyse the potential shortfall in resources to meet the growing portfolio. This analysis allowed for the net growth in base staff numbers allowing for apprenticeships and attrition, and planned efficiency effects in terms of labour productivity and investment processes.

Workforce planning at this time focussed on a mixture of strategies designed to both increase our internal capability through improved efficiency in planning and delivery using internal resources, and employ a range of external sourcing strategies to meet overflow workloads.

Gap analyses were undertaken to identify resourcing issues as shown in the example in the diagram below.

Graph – Forecast of FTE Requirements for Distribution, Operations and Reliability Division

Despite forecasts that capital demands would continue to increase over the next ten years or more, conscious decisions were made to limit the overall increases in staff numbers. Overall staff numbers peaked in 2011/12, mirroring the peak in maintenance and capital expenditure.

The operational areas introduced a range of reforms through the period, designed to improve efficiency, including:

- Roll-out of an integrated, asset management system (iAMs);
- Updating of the investment governance framework;
- Establishment of engineering services contract panels;
- Development of a common planning platform and enhancement to the corporate geographic information system (GIS) for planners;
- Centralisation of the contestability group; and
- Integration of Customer Operations with Field Services.

In the lead up to the last regulatory period, decisions were also made to withdraw from larger scale external and contestable work. At its peak in 2006, this work involved the equivalent of approximately 110 full-time staff. The value of this work halved between 2006 and 2009, freeing up resources for core activities.

Overtime

The previous regulatory period saw a significant use of overtime as another means of increasing resource availability to deliver peaks in the capital program. Targeted use of overtime comes with a significant number of advantages namely:

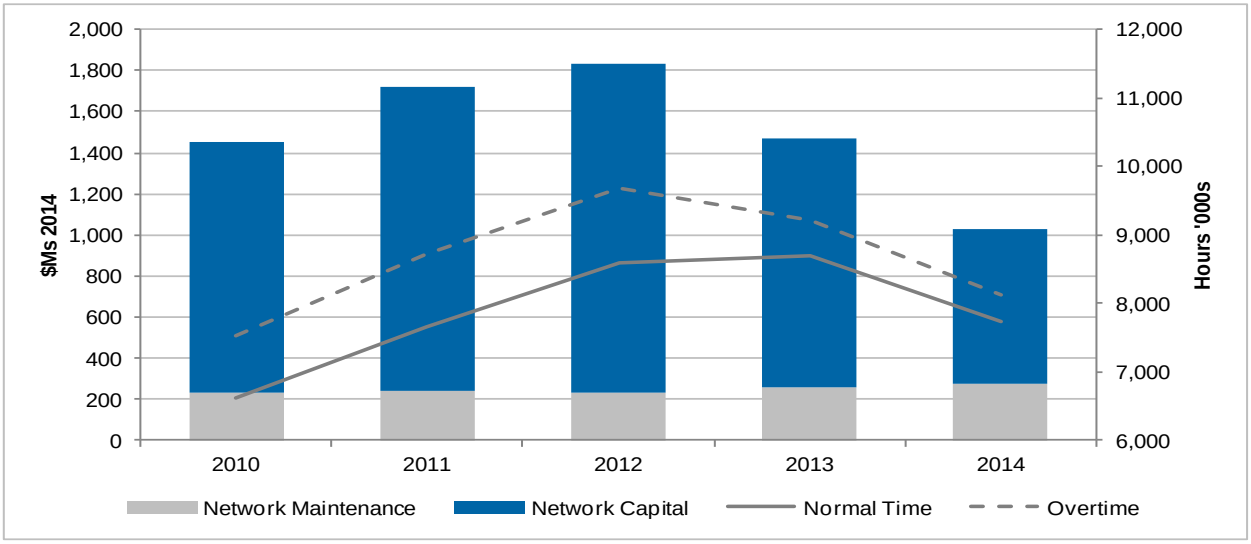
- Employee fixed costs are recovered during normal working hours;
- Employment of additional staff is not required; and
- Higher productivity at a lower overall cost through an increase in productive hours per day due to savings in travel and other set up costs.

Overtime hours represented an average of [redacted] for the three operating divisions from 2010 to 2012. The reduced program requirements and the introduction of new overtime guidelines have resulted in overtime comprising just [redacted] in the last two years. Overtime levels in 2014 represents a reduction in over [redacted] from the peak in 2012. High levels of expenditure in the early period of the previous regulatory period were also driven by lower resource intensive feeder and tunnel projects.

Graph – Normal Time and Overtime Actual Hours

* High Levels of expenditure influenced by a large scale feeder and tunnel projects

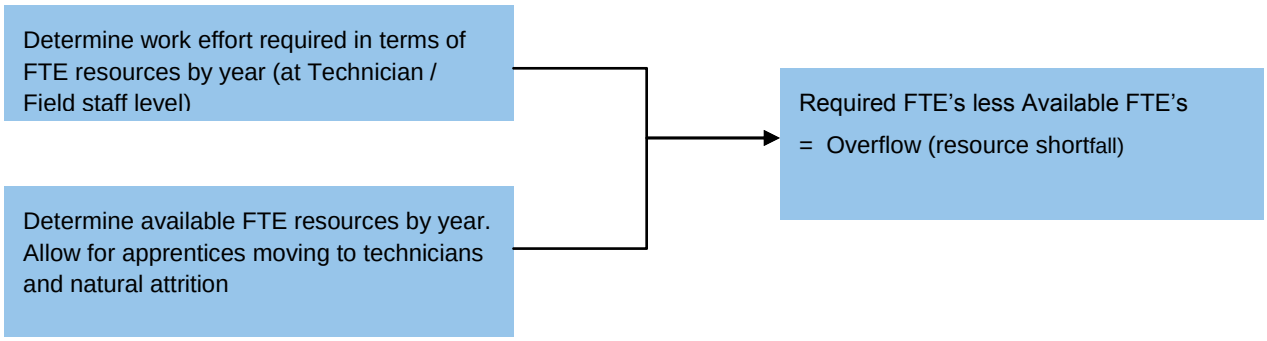
** Peaks in Overtime in 2011/12 contributed over one million hours to the delivery of the portfolio



Prior to the commencement of the last regulatory period, within the context of the largest ever capital program and new licence condition obligations with challenging deadlines, the organisation identified the need to fast track and streamline the process to utilise external resources for components of the portfolio. A MoU with the ETU was signed in August 2007, allowing for 'overflow' contracts to be fast tracked and established to supplement Ausgrid's workforce so that peak workloads could be met. This five year agreement had a number of schedules which covered different types of work, including:

- Pole replacement work;
- Extension of the existing bulk lamp replacement contracts to include the replacement of light fitting and brackets south of Sydney harbour;
- Fire stopping work and the replacement of open wire OH LV with ABC conductors in the Sydney City Council area; and
- Agreements with 'Alliance Partners' for the delivery of 'overflow' sub-transmission and zone substation work.

Effectively the MoU allowed for any work above the capability of a capped internal workforce involved in design, construction and operation of the network, to be considered as overflow. The process for determining overflow is outlined below:



Benefits of the MOU

The MoU provided an opportunity for an ongoing cultural transformation in relation to a competitive mixed resource model across areas that had traditionally been delivered through internal resources. Benefits arising from the MoU included:

- Panels established through a competitive tendering process;
- Increased capability of delivering a broad array of complex projects e.g. civil construction of CBD substations and tunnels, laying of 132kV submarine cable and control and protection system design;
- Increased industry exposure of Ausgrid standards and processes;
- Pain and gain share, - profit at risk incentive schemes; and
- Reduced project delivery times.

Use of External Resources

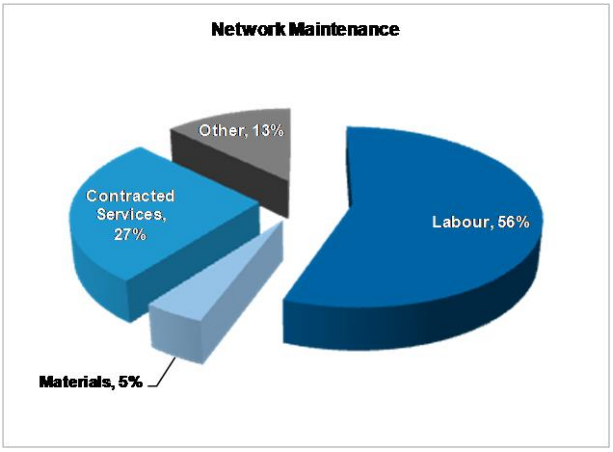
A significant proportion of Ausgrid's network maintenance and capital programs have traditionally been delivered through external resources. A range of external supply contracts were used, and remain in place, to support the delivery of these programs. Key contracts include:

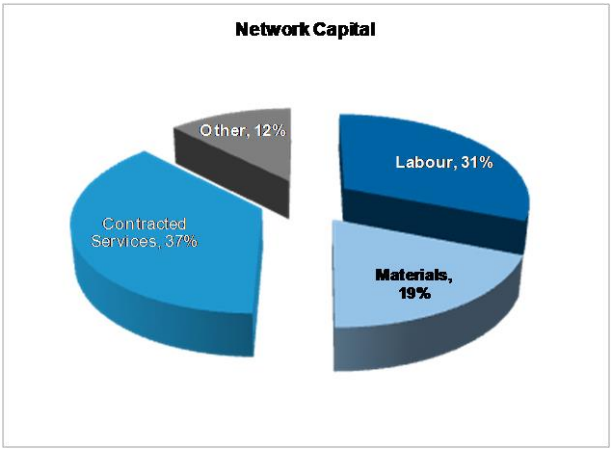
- Network Maintenance
  - Pole inspection, nailing and replacement;
  - Vegetation management;
  - Fire equipment and services inspection and maintenance;
  - Aqueous waste; and
  - Line inspection, including LiDAR and thermovision.
- Other Operational Activities
  - Meter reading;
  - Traffic control; and
  - Bulk lamp replacement.
- Network Capital
  - Design and engineering services;
  - Civil and building services;
  - Project services, including environmental, community consultation and contract management;

- Non-destructive civil construction activities;
- Contract cable laying; and
- Tower refurbishment.

There was an increased use of external resources to meet peaks in the capital program during the last regulatory period. The percentage of costs for labour, material and contracted services for system maintenance and capital is shown below.

Graph – Percentage of Program Expenditure by Cost Element





Those programs with the largest component of external resourcing over the previous regulatory period were:

- Planned maintenance with the full outsourcing of vegetation management;
- Area plan projects, including greenfield zone and sub-transmission substations; and
- High Voltage capacity projects.

While many maintenance activities are considered a core skill to be retained within the business, external contractors are used to deliver a range of maintenance activities. Contracted services comprised an average of 27% of core system maintenance in 2013, with the largest area being planned maintenance, where contracted services made up 43% of total costs.

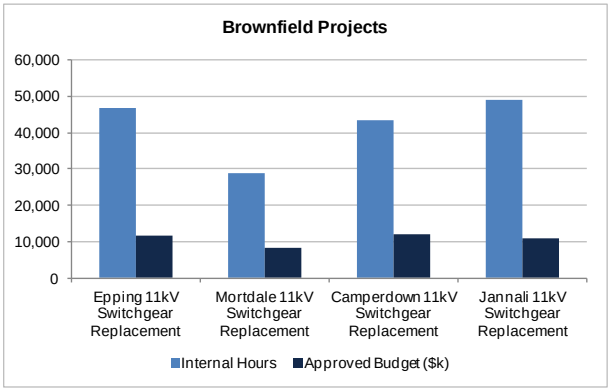
Table – Percentage of Program Expenditure by Cost Element

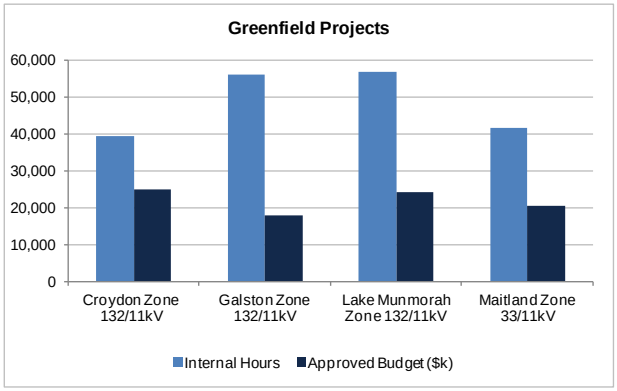
Program	Labour	Materials	Contracted Services	Other
Planned Maintenance	44%	3%	43%	11%
Corrective Maintenance	62%	7%	19%	12%
Breakdown Maintenance	65%	6%	12%	16%
Nature Induced Maintenance	76%	2%	4%	19%
Total Maintenance	**56%**	**5%**	**27%**	**13%**
Replacement	44%	20%	22%	13%
Duty of Care	35%	12%	42%	11%
HV & LV Capacity	34%	17%	34%	15%
Cust. Conns & Services	39%	34%	16%	12%
Public Lighting	39%	21%	24%	16%
Area Plans	21%	20%	52%	7%
Total Capital	**31%**	**19%**	**37%**	**12%**

Contracted services also underpin the delivery of the network capital program and have been utilised extensively to resource peak demands. Contracted services comprised an average of 36% of capital costs, peaking at $653m in 2011/12.

The significant variation in resource labour demand across the range of projects and programs can be seen in the following examples.

Graph –Resource Hours Required for Greenfield and Brownfield Projects





These examples show that brownfield 11kV switchgear replacement projects are more labour intensive than greenfield substation projects for an equivalent level of investment.

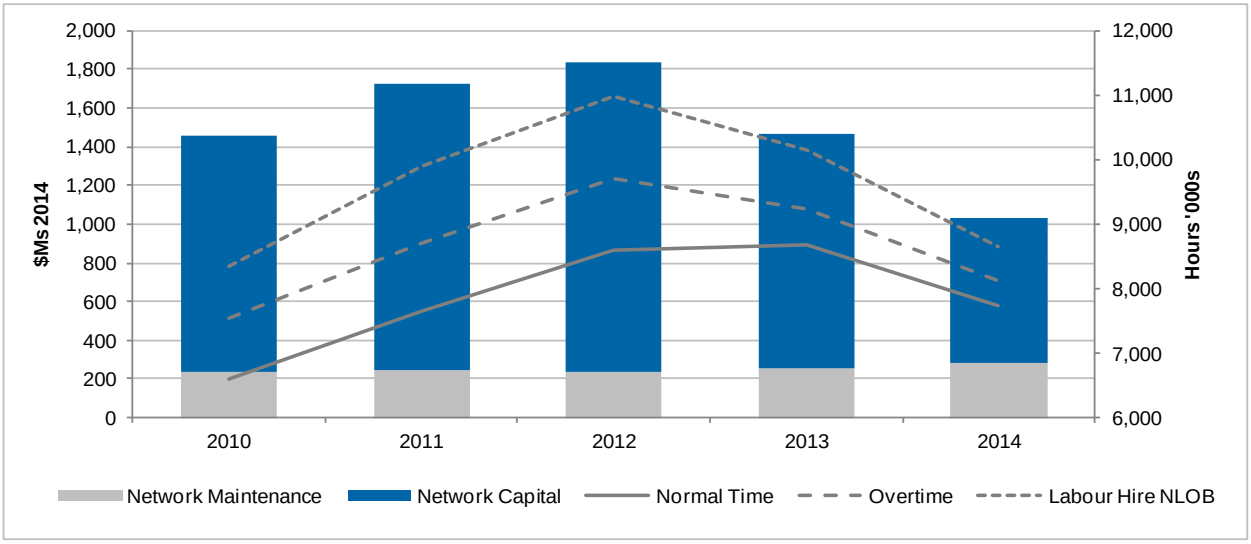
Labour Hire

Labour hire has been used in a range of areas to meet peak demands and supplement internal resources. During the peak in 2011/2012, labour hire contributed the equivalent of an [redacted] in comparison to levels utilised in 2014.

Graph – Cumulative Effect of Normal Time, Overtime and Labour Hire Hours

* Overtime and Labour Hire peaked in 2012 and have reduced steadily

** Labour Hire includes all labour hire apportioned to the Network Line of Business (NLOB)



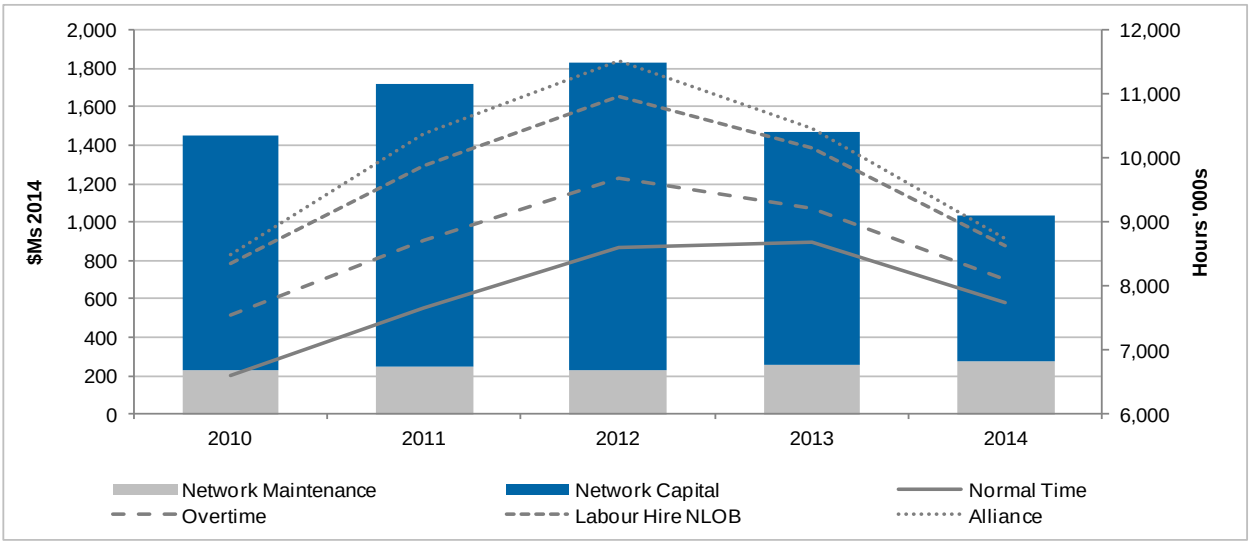
Contract Cable Laying

Contract cable laying has been extensively used for over 20 years and was significantly ramped up over the previous regulatory period to support increased load transfer works in the area plans, and HV capacity programs. The contractors provided the equivalent of approximately [redacted] at their peak in 2010/11. These resources have now slowly been wound down as this program decreases in volume and the scope of individual projects reduces.

Alliance Partners

The previous regulatory period saw the introduction of a new form of contracted service with the establishment of three alliance agreements which contributed substantially to the delivery of the program.

Graph – Cumulative Effect of normal Time, Overtime, Labour Hire and Alliance Hours



The Alliances delivered [redacted] - directly in resource constrained areas, enabling Ausgrid to deliver over $1,200 million of total project value, or over 20% of the total five year program of capital works.

Mid-Point Review

With the decreasing load growth on the network, the annual review of the area plan strategies and the upcoming conclusion of the MoU, Ausgrid initiated a comprehensive review of the delivery strategy for major area plan projects in late 2012. The review made the following conclusions:

- The zone alliances achieved their goal of supporting peak resource demands, by fast tracking delivery of the substantial zone and 33kV cable projects in the period. This avoided the risk of a slow ramping up of activity on projects with long timeframes and licence conditions deadlines;
- The cable alliance model did not meet financial expectations due to structural difficulties with the way in which the alliance engaged with the cable supplier;
- The demand for major greenfield zone substation works was forecast to return to longer term investment levels and could be delivered through either a traditional model of civil contractors and in-house resourcing or individual competitive turn-key contracts;

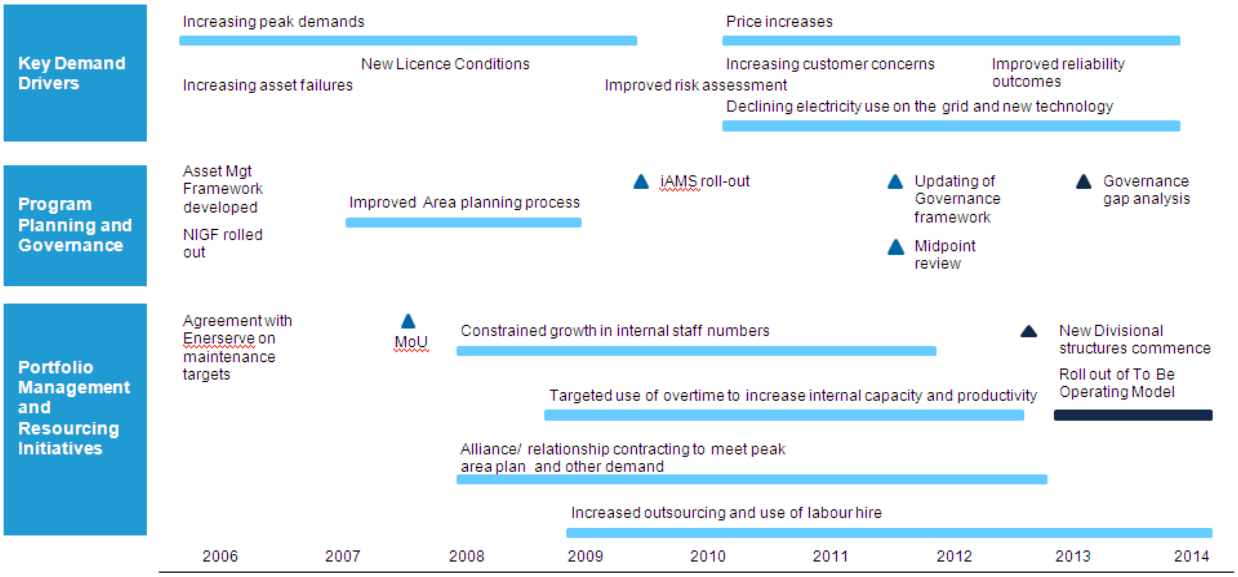
- The cost of program overheads, and the need to achieve scale efficiencies with an alliance model, meant that this procurement model was no longer appropriate. A new model was required that could demonstrate a least cost outcome within an overall reduced program;
- Strategies to continue to improve efficiencies on the traditional delivery model of civil contractors and in-house electrical resources needed to be developed;
- Major feeder replacement works would continue over the longer term and should be delivered under a contract model that achieves least cost delivery while still meeting Ausgrid's design standards;
- A vibrant and competitive NSW market had been facilitated and could now be leveraged in a more traditional competitive model going forward; and
- There was the ability to build on the cultural transformation within Ausgrid that had been underpinned by this experience.

In light of this analysis, decisions were taken to wind up the Alliances and utilise a variety of alternative contracting methodologies.

Summary

Ausgrid has experienced significant changes to demands on its network over the last ten years. It has responded by adapting its management structures, business processes, industrial relations and resourcing strategies.

Diagram – Cumulative Effect of normal Time, Overtime, Labour Hire and Alliance Hours



Building on the experience and knowledge gained over the last five to ten years, Ausgrid is confident that a strong skilled and competitive market exists to support and complement its internal delivery capability. This has been underpinned by:

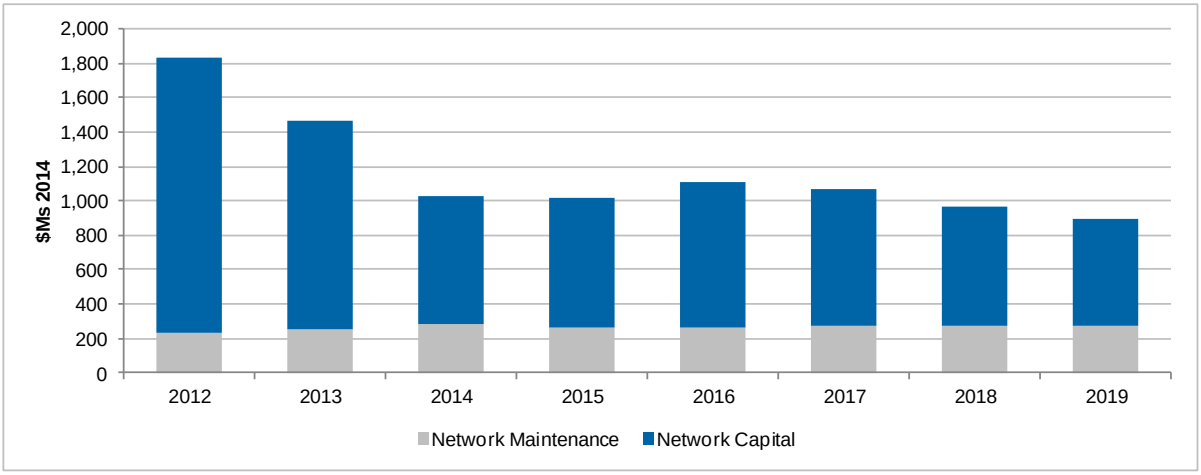
- Ongoing reviews of network demands and associated resource requirements, which have enabled fine tuning and ramp down of resourcing strategies as circumstances changed;
- Increasing internal capability and output without long term risk;
- Flexibly leveraging existing contract markets;
- Developing non-traditional markets;

- Developing internal contract sourcing and management skills; and
- Incorporating efficiency improvements.

8 Scope of the Network Maintenance and Capital Program

Ausgrid's Revised Regulatory Proposal (RRP) for the current period comprises a maintenance program of approximately $1,346 million and a network capital program of approximately $3,728 million ($s 2014). This section of the SDP focuses on the demands resulting from this planned program of works and the changes in the nature of demand from the peak requirements experienced in 2012.

Graph – Total Planned Investment in Network Maintenance and Capital



9 Network Maintenance

The SDP considers the delivery strategy (including resourcing and expenditure requirements) for the core network maintenance and public lighting maintenance activities. Those operational activities not covered by this plan are highlighted below and are dealt with in the Strategic Workforce Plan.

Table – Operational Activities not covered by the Strategic Delivery Plan

Program	Type of Program	Description
Core Network Maintenance	Planned Corrective Breakdown Nature Induced	Planned maintenance, inspections, condition based maintenance and reactive work to address faults and emergencies. Include PMO 1 to 4. Covers the following asset types: • Transmission substations • Zone substations • Distribution Substations • Transmission Mains • Distribution Mains • Public Lighting

Other Network Maintenance and Engineering Support	Damage by 3rd party Non-direct maintenance Engineering support	Include PMO 5, 8 and 9

Reflecting a mature asset management approach, network maintenance expenditure is forecast to remain relatively stable for the duration of the current regulatory period, only changing annually due to growth in the asset base, and escalation of unit costs. Forecasts have generally been based on an extrapolation of the base year of 2012/13, with the exception of planned inspections, which have been adjusted for variations in the planned volume of tasks. The required number of planned inspection and routine maintenance tasks is driven by the number of items of equipment and the applicable maintenance cycle and standards. Maintenance cycles are determined on the basis of failure modes effects criticality analysis (FMECA) and Reliability Centred Maintenance (RCM) techniques. No potential step changes in the program due to issues such as private mains have been factored in at this stage.

Graph – Network Maintenance Actual and Forecast Expenditure

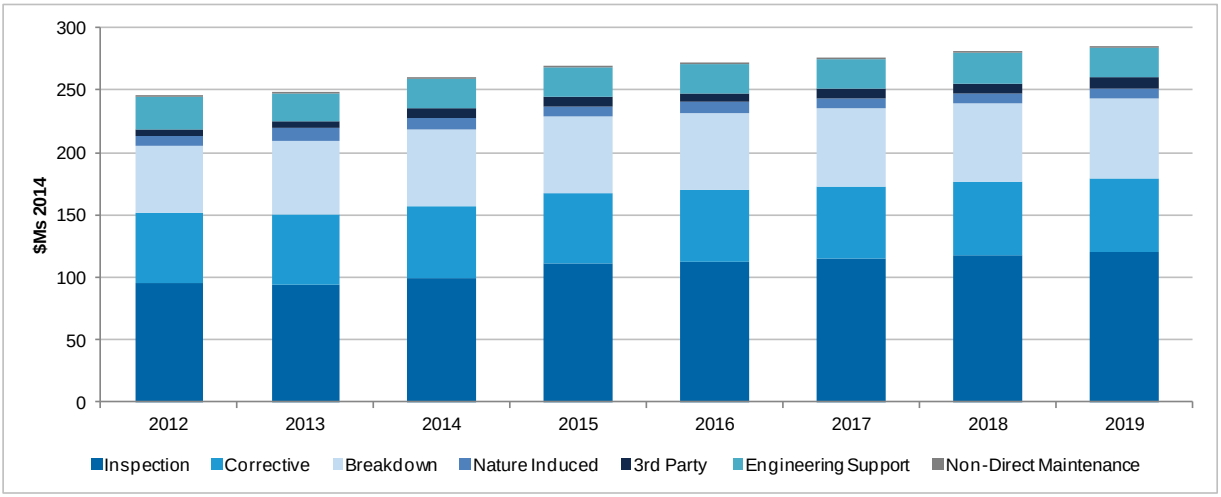


Table – Network related operational activities covered by the Strategic Workforce Plan

Program	Type of Program	Description
Metering	Metering maintenance and meter reading	Maintenance of metering asset including testing & investigation of meters.
Other Operational Activities	Support System Property	Strategic planning, system switching and capture of asset data in the corporate geographic information system. Acquisition of system property, and land remediation.
Support /overheads	Support	Administrative support and other overheads to be included in the Ausgrid Strategic Workforce Plan

10 Network Capital

Network capital comprises a range of programs as outlined below.

Table – Network Capital Programs

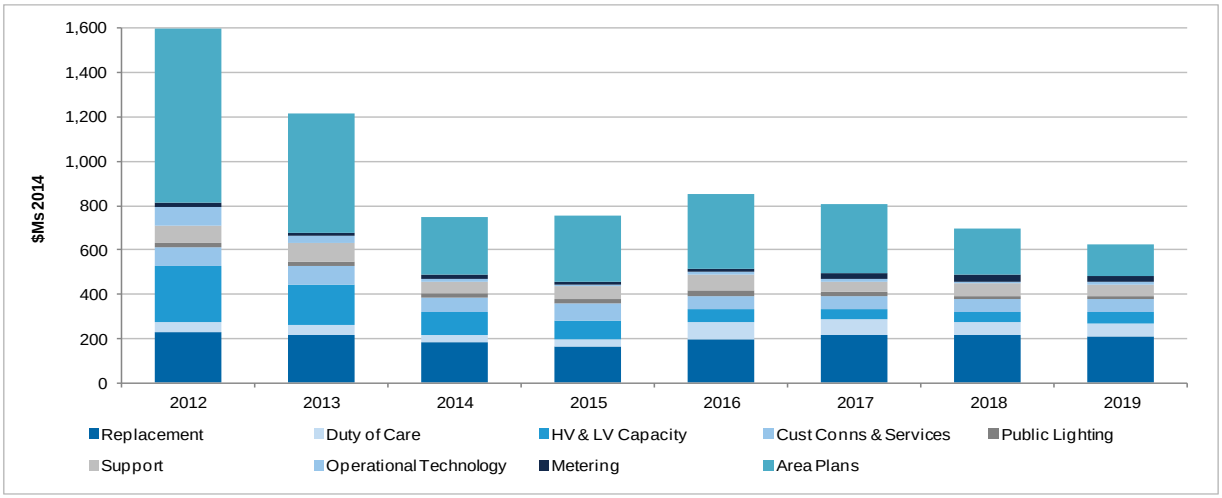
Program	Type of Program	Description
Network Capital	Replacement	Replacement of degraded distribution network assets and smaller piecemeal replacement of sub-transmission assets not covered by the area plans, to maintain the safety of the network.
	Duty of Care	Compliance and management of risk related to safety, environment and infrastructure security.
	HV & LV capacity	Investment to increase capacity on elements of the HV and LV network due to meet demand, and to maintain security, reliability and quality of supply. Also includes investment required to meet reliability performance standards.
	Customer Connections and Services	Obligations relating to customer connections, supply augmentation and customer specific standards of service.
	Public Lighting	Replacement of degraded assets and provision of new public lighting.
	Area Plans	Investment on the sub-transmission network to : • Replace major assets to maintain safety of the network; and • Increase the capacity on the network (to meet demand and maintain security, reliability and quality of supply).
	Support	Strategic network planning, system control and GIS operations. Acquisition of strategic system property and easements and land remediation. These areas are currently covered by the Strategic Workforce Plan.
	Operational Technology	Infrastructure, platforms, applications and devices required to support our network. This area is currently covered by the Strategic Workforce Plan.
	Metering	Replacement of aged assets. This area is currently covered by the Strategic Workforce Plan.

The baseline analysis for this version of the SDP was based on updated forecasts for the timing of delivery of the substantive regulatory proposals which were prepared in September/October 2014. Manual adjustments have been made of this analysis to take into account the key changes embodied in the revised regulatory proposal.

The level of capital investment has reduced significantly from a peak 2011/12 to a lower and more sustainable position in 2015. Total proposed network capital investment is forecast to average $746 million per annum as shown in the Graph below. Recent updates from Engineering have seen some downward adjustment to the substantive regulatory proposal, as a result of revised load forecasts, some reassessment of risk and efficiency assumptions.

Graph – Network Capital Actual Forecast and Expenditure

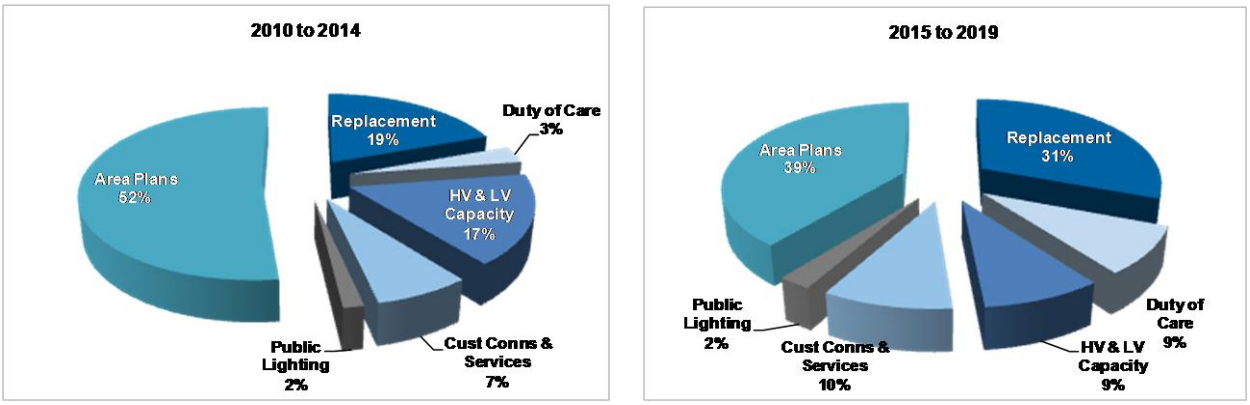
* Significant drop from peak in 2011/12, with multiple factors impacting the program. Outer years are forecast to average approximately $746 m per year.



In addition to the significant reduction in the size of the investment program from the peak in 2011/12 to the current regulatory period, there is forecast to be a substantial change in the structure of the capital program. The primary focus will increasingly shift to programs of work.

The change in the proportion of each key areas of the long term plan is shown in the following diagram.

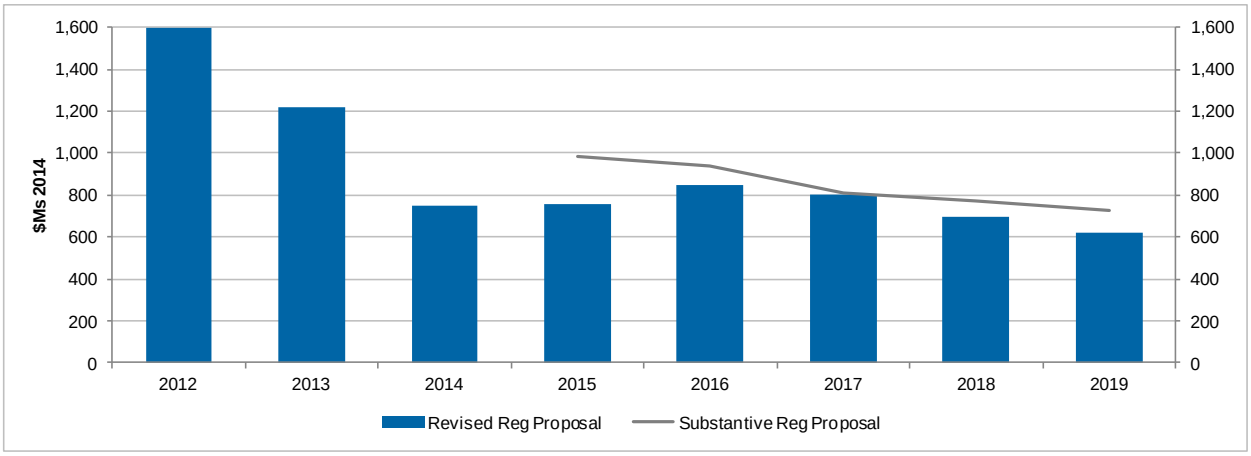
Graph – Percentage of Forecast Capital Expenditure by Long Term Plan



In addition, the nature of area plan projects is shifting, with reduced work related to greenfield zone and sub-transmission substations, and increased demand in relation to brownfield substation and feeder replacements.

It has been assumed in this analysis that the forward program in the substantive regulatory proposal represents the upper limit of demand for the period.

Graph – Forecast Capital Expenditure in Regulatory Proposals and SDP Baseline



The potential impact of recent refinements to the forward plan by Engineering has been assessed at a high level. Key changes to the capital program which have been incorporate as a result of revised load forecasts and reassessment of asset condition and risk include:

- Some changes in the timing of a range of area plan projects, with a consequent change in sequencing and associated cash flow from 2014/15 to outer years;
- Deletion or deferral of a number of area plan projects;
- Reduced forecasts for a range of reactive replacement and duty of care programs, where risks can be effectively managed through improved targeting; and
- Reduced 11kV capacity works following changes to demand forecasts.

A more detailed review of the potential impacts of these changes to the planned program of works will be undertaken over the next few months to ensure alignment of the demand analysis with the revised regulatory proposal.

11 Approach to Demand Analysis

This section of the SDP describes the approach and methodology used to forecast the level of resources required to enable optimal delivery of the network maintenance and capital programs.

This analysis is necessary to:

- Confirm whether the portfolio is deliverable;
- Identify specific critical resource shortages, or oversupply;
- Inform the Strategic Workforce Plan;
- Identify areas where benchmarking is required; and
- Inform the type and amount of work that needs to be externally resourced and assess the market capacity to deliver this amount of work.

12 Resource Demand Analysis Tools

An assessment of resources required to deliver the portfolio has been made based on:

- A review of past trends and forecasts of hours booked to maintenance orders;
- A review of past trends and forecasts in hours booked to capital projects, by long term plan;
- Detailed templates for major projects developed within Primavera; and
- High level templates developed within Primavera for capital programs of work.

These have been utilised to develop the Master Schedule. The objective of the Master Schedule is to plan the delivery of the maintenance and capital programs defined by Engineering at a strategic level. The Master Schedule is designed to translate the long term plans defined by Engineering into two key dimensions:

- A time dimension, to indicate when the program items need to be completed;
- A workload dimension, to allow evaluation of base resource requirements in terms of total hours by job category, and if any changes to workforce planning are required to complete the maintenance and capital and programs.

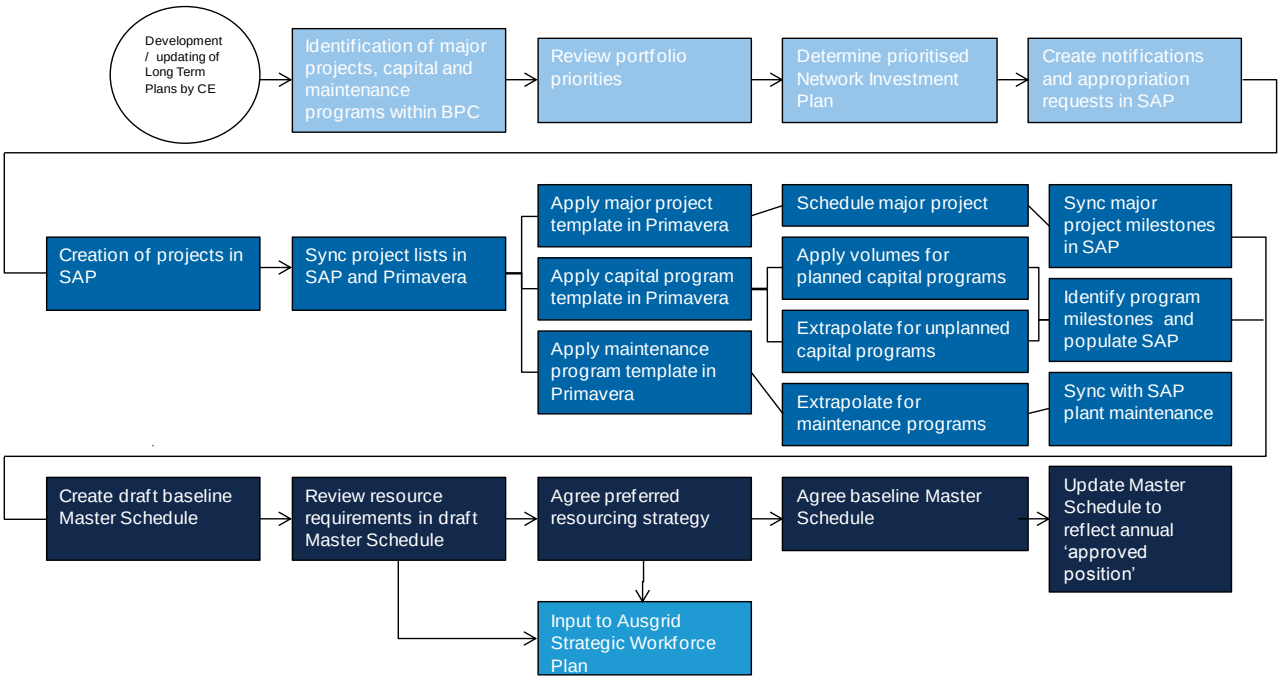
The Master Schedule is in the early stages of development and currently consists of four key components:

- Network maintenance
  - Based on an extrapolation of historical data and forecast demands.
- Capital programs with identifiable work items
  - Based on unit rate and quantity estimates.
- Capital programs with non-identifiable work items
  - Based on an extrapolation of historical data and forecast demands.
- Area Plans
  - Based on building block estimates, together with the following checks:
  - Cross checks of scope with available planning documents;
  - Comparison of labour hours and activity durations with historic data; and
  - Verification of estimates of hours and activity durations by experienced project managers.

Currently the Primavera analysis does not incorporate support, system property and operational technology programs. While work is underway to include operational metering activities within this analysis, information for these programs has been sourced from previous work for the Strategic Workforce Plan. Further development of these requirements will be undertaken in future updates of the SDP.

The process for developing the Master Schedule, building on the network needs identified by Engineering, is shown in the diagram below.

Diagram – Ongoing Process for Development of the Master Schedule



13 Strategic Workforce Plan

The Strategic Workforce Plan has been developed in line with the high level process, accountabilities and reporting requirements outlined by Networks NSW. This SDP is a key input to the Strategic Workforce Plan developed under this framework, providing detail in relation to the demand for network related resources.

As part of the broader workforce planning exercise, Ausgrid has redefined job families and categories to provide a more robust basis for workforce planning. These updated categories are described in more detail in the Strategic Workforce Plan and have been utilised in the SDP analysis.

The SDP also utilises the assumptions outlined in the Strategic Workforce Plan with respect to:

- Labour supply,
- Available hours, and
- Labour utilisation rates.

Work is underway to improve the alignment between the mapping of demand and supply at the job category level. Due to some differences in the current level of detail available in some areas, analysis to date has been focussed on job families. Some additional information is provided in relation to specific job categories where relevant detail is available.

14 Network Resource Demand

An analysis of resource hours required for delivery of the network maintenance and capital programs for the current five year period has been undertaken.

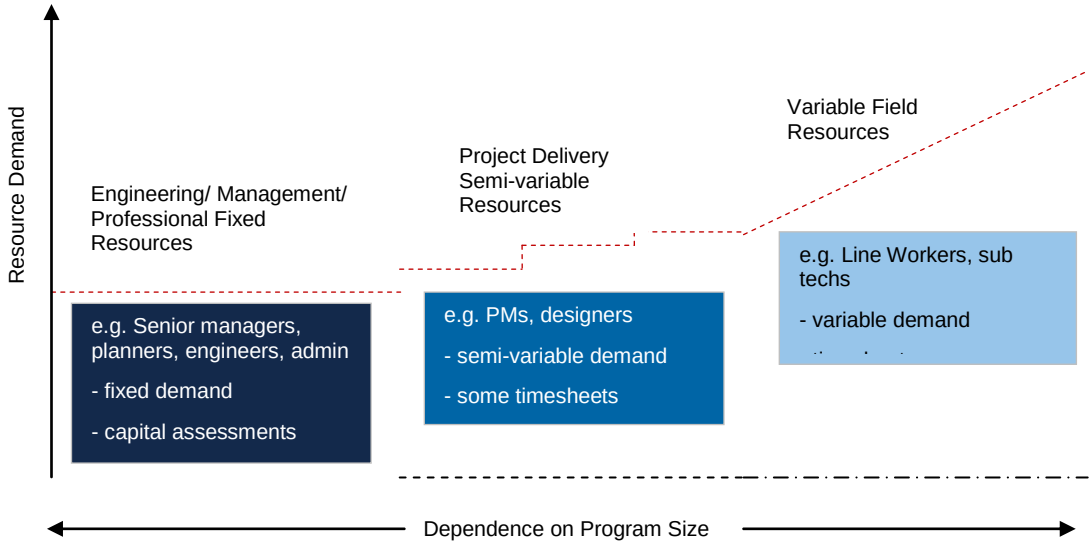
This analysis focuses primarily on the work carried out by the three operating divisions, with a particular emphasis on base field and advanced field resource requirements. In addition, a number of engineering and

management/professional resources directly involved in the delivery of the maintenance and capital programs are included in the analysis. Demand for these resources has been considered in three main groups:

- Field Delivery Resources - involved in distribution and transmission network maintenance and/or capital works delivery activities and generally based in one of the three Regions within Network Operations,
- Management and Professional Resources - involved in the planning and delivery of projects and programs and primarily part of Network Development or Network Operations, and
- Engineering Resources - involved in establishing what work needs to be delivered to the standards set by the Chief Engineer. These resources currently reside in all three operating divisions, working within the standards and policies set by Engineering Division.

Generally, the demand in these three groups can be characterised by the extent to which they vary with the scale and nature of the investment portfolio.

Diagram – Variable and Fixed Demand



15 Network Maintenance and Capital Resource Demands

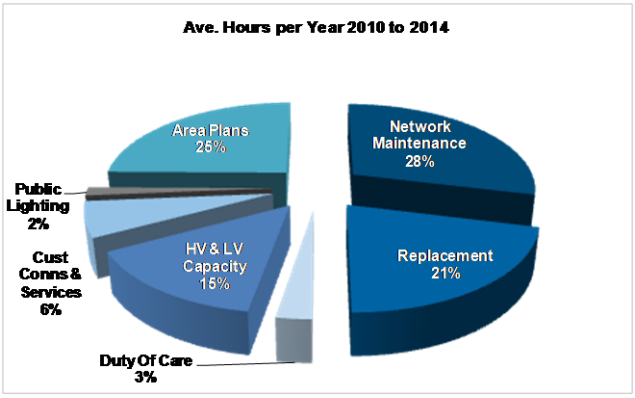
From the analysis undertaken to date, overall demand for internal network resources is forecast to average 3.40 million hours per annum over the current 5 year regulatory period, compared to an average of 4.22 million actual hours utilised in the previous regulatory period.

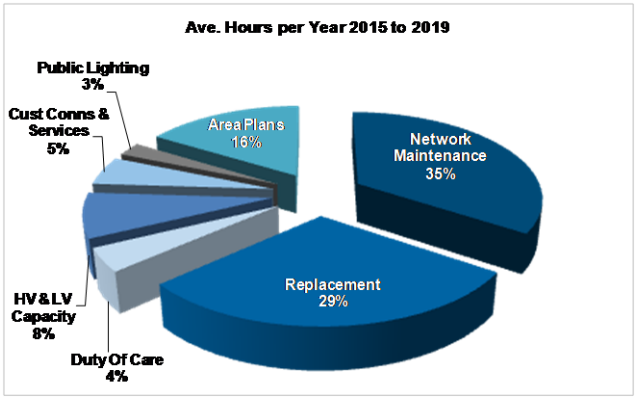
Network maintenance and capital resource demands have been analysed in Primavera and are summarised below, focusing on:

- Network maintenance – including PMO 1 to 5 and 8 and 9 (see Definitions), and
- Network capital – including replacement, duty of care, HV and LV capacity, customer connections and services public lighting and area plans, and excluding operational technology, planning, system control, GIS and system property programs.

Those areas not currently included in the Primavera analysis are briefly covered in Section 5.5 and are addressed in more detail in the Strategic Workforce Plan.

Graph – Percentage of Total Network Resource Demand (hours'000s) by Program





Core maintenance and capital replacement program activities are forecast to become the largest drivers of resource demand over the next five years, increasing from 49% to 64% of the total demand.

Table – Average Network Resource Demand by Program

Program	Hours '000's		
	Actual Ave. Annual Demand Previous Regulatory Period	Forecast Ave. Annual Demand Current Regulatory Period	Impact of change in Demand
Network Maintenance	[redacted]	[redacted]	[redacted]
Replacement	[redacted]	[redacted]	[redacted]
Duty of Care	[redacted]	[redacted]	[redacted]
HV & LV Capacity	[redacted]	[redacted]	[redacted]
Cust. Conns & Services	[redacted]	[redacted]	[redacted]
Public Lighting	[redacted]	[redacted]	[redacted]
Area Plans	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	

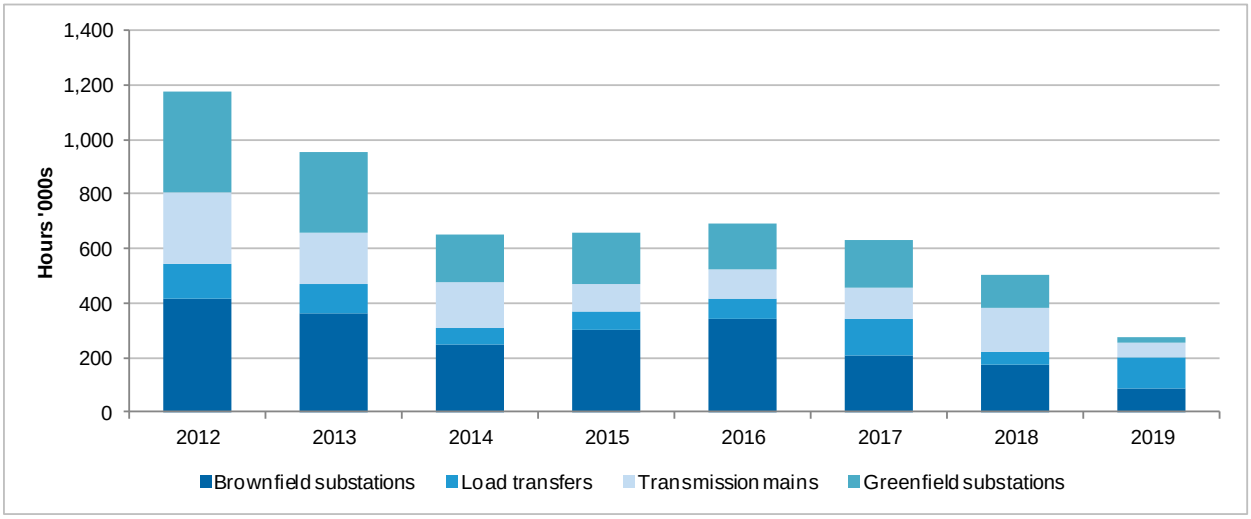
The biggest area of change in demand for resources is the contraction of large scale, greenfield area plan investments and HV and LV capacity driven programs. While these changes broadly align with the changing level of investment, they also reflect the differing levels of labour resources required to deliver these programs.

The forward plan assumes core network maintenance remaining at levels equivalent to 2012/13 of approximately [redacted] throughout the period. While there are some forecast variations over the five year period, an average of [redacted] is forecast to be required to deliver the network capital components of the portfolio.

The demand related to distribution related replacement, duty of care and public lighting programs are forecast to increase over the period. In parallel, there is forecast to be a significant reduction of resource requirements for the construction of new, large scale greenfield zone and sub-transmission substations and in high voltage capacity projects. This is forecast to be partially offset by continuing demand in resource intensive brownfield zone and sub-transmission substation work within the area plans. Sub-transmission feeder projects will continue throughout the period.

NOTE: the apparent drop off in overall demand in the last year of the period is likely to be overstated at this stage as the demand requirements for projects beyond the current regulatory period are not yet built into the Primavera analysis

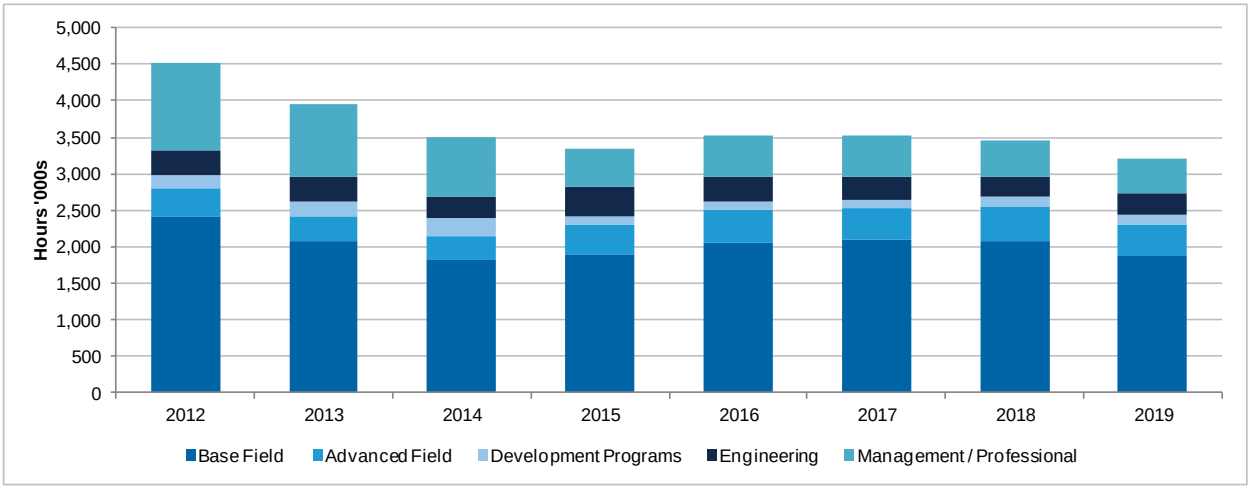
Graph – Forecast Area Plan Resource Demand by Project Type



These changes in the above programs impact the demand within the different job categories.

Graph – Forecast Area Plan Resource Demand by Project Type

* Forecasts of demand for some management/ professional skills e.g. field supervisors, are incorporated into base field demand.



The following table shows the average annual forecast demand to deliver the network maintenance and capital programs.

Of this average demand, 75% is related to field staff and 25% is related to engineering and management/ professional job categories.

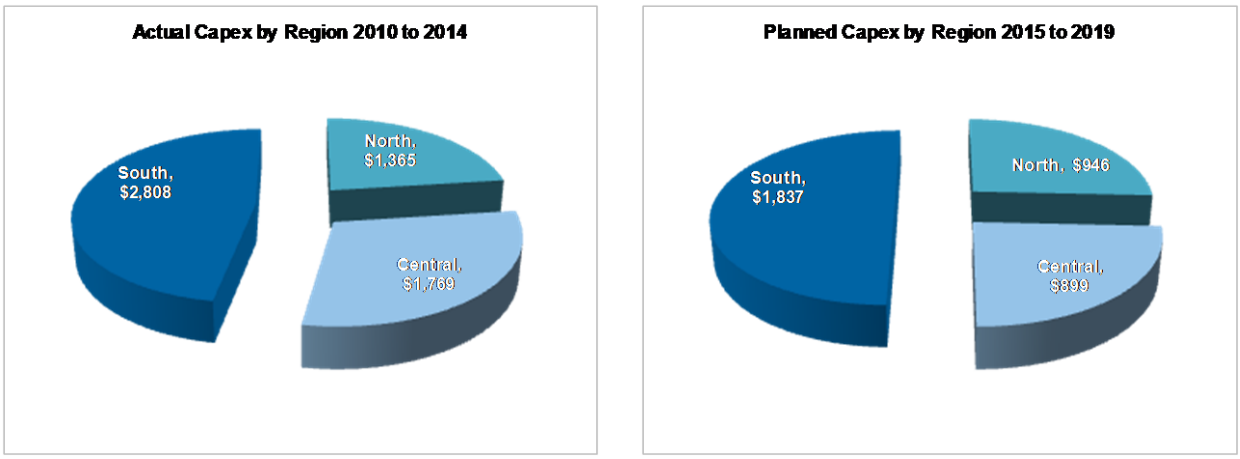
NOTE: Work is underway to improve the alignment between the mapping of demand and supply at the job category level. Due to some differences in the current level of detail available in some areas, analysis to date has been focussed on job families. Some additional information is provided in relation to specific job categories where relevant detail is available.

Primavera templates utilised for the demand analysis incorporate field coordinators and field supervisor hours within the base field estimates. However, these are separated into the management/professional category in the supply analysis.

16 Regional Demand

An analysis of the geographic spread of work is currently underway to identify changes in the demand at the regional level. This analysis will be incorporated in future updates of the SDP. Ausgrid recognises that changes in the scale and nature of the program will have a varying impact on resource requirements at a regional level, particularly with a decrease in demand in the Central and North regions, following major construction activity in these regions in the previous regulatory period. The change in the overall level on investment across the regions can be seen in the following diagram.

Graph – Percentage of Actual and Forecast Investment by Region



Other Network Maintenance, Operations and Capital Programs

Those areas not currently included in Primavera analysis include:

- Operational technology;
- Planning, system control and geographic information support activities;
- System property capital programs;
- Metering capital, maintenance and other contestable services; and
- External, contestable and recoverable activities.

These items are covered in the Strategic Workforce Plan.

Work has commenced on confirming the detailed scope of the operational technology program. Overall this program is not expected to be resource intensive and will primarily involve engineering, IT and external resources. Office support and other overhead functions are also incorporated into the Strategic Workforce Plan, and reflect the 'To Be Operating Models'.

17 Summary of Network Resource Demand

Forecasts of demand for resources at a total portfolio level are in the early stages of development, with components such as major area plan projects being more mature than others. The demand analysis has utilised templates for labour demand linked to the planned program of works for the current five year regulatory period, and extrapolated that data forward based on existing and proposed resourcing strategies.

18 Network Resource Supply

Network resource supply data has been sourced from the Strategic Workforce Plan.

As at 1 July 2014, the three operating divisions contained a total of [redacted]

This supply excludes metering resources which were moved to Network Development from Finance and Compliance Division in late 2014. Both demand and supply issues for metering resources are covered by the Strategic Workforce Plan at this stage.

Of the core resources in the operating divisions at the 1 July 2014, [redacted] were in field, engineering or management and professional job categories, the majority of field staff being located in Network Operations Division. Remaining staff were largely in administration and business support categories and are not covered by this plan.

19 Supply of Key Delivery Resources

The following analysis takes into account the forecast levels of attrition and average utilisation rates embodied in the Strategic Workforce Plan. The available hours from the workforce in the four key job families relevant to this analysis is forecast to decline by 2019 as a result of attrition, resulting in a [redacted] in forecast available hours available for directly booking to portfolio activities in these key areas.

Table – Actual and Forecast Available Supply in Operating Divisions Hours '000's

Job Family	Forecast Available Hours '000's	
	2015	2019
Base Field	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]
Engineering	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]
Total	[redacted]	[redacted]

The mix of this workforce by job category has been reviewed at a high level based on preliminary mapping undertaken by People & Services. This mapping is currently in the process of being verified by line management.

NOTE: Work is underway to improve the alignment between the mapping of demand and supply at the job category level. Due to some differences in the current level of detail available in some areas, analysis to date has been focussed on job families, e.g. Primavera templates utilised for the demand analysis incorporate field coordinators and field supervisor hours within the base field estimates, as these resources sit in the same organisational units within the delivery areas. However, these are separated into the management/professional category in the supply analysis.

20 Gap Analysis

Based on the above demand and supply information, a gap analysis has been carried out in relation to the required labour hours to deliver the programs in order to:

- Identify the key gaps between current supply and demand and future supply and demand;
- Identify the likely timing of any key changes in skills and capabilities, and

- Assess the criticality of each gap to delivery of the overall portfolio.

Both shortages and surpluses of resources have been considered in this analysis. In determining the criticality of the gaps, a high level assessment has been made of the likelihood and consequence of these gaps occurring.

21 Core Network Maintenance and Capital Gap Analysis

General

Key issues identified which have the potential to impact the delivery of the network maintenance and capital programs include:

- Analysis of demand and supply indicates that at a high level the core network maintenance and capital replacement programs, are deliverable through Ausgrid's available resources, supplemented by 'business as usual' outsourcing;
- Additional outsourcing will be required to supplement delivery resources in some programs, particularly in the later years, [redacted]; and
- Access to the network (planned outages) due to both system and resource constraints is impacting both maintenance and capital programs and poses ongoing issues for allocation of work to internal and external resources.

Network Maintenance

- Network maintenance will remain the core focus for many key internal delivery resources;
- No materials gaps in resourcing of maintenance activities are evident in the core maintenance areas, assuming no fundamental changes in the underlying programs of work; and
- The major operational constraint to delivery of the maintenance program relates to access to the network, particularly in relation to transmission and sub-transmission activities. Multiple cancellations of these activities are currently being experienced due to network constraints.

Network Capital

- Forecast increases in distribution related replacement and duty of care programs will [redacted]
- A planned increase in pole replacement programs will require [redacted]
- Significant decline in the numbers of active contract cable laying crews, from a peak of [redacted] to current levels of [redacted] is in line with trends in planned investment levels;
- Downward trend in large scale, greenfield area plan investment will result in reduced demand for a range of field, engineering and management and professional resources;
- Despite the decline in overall area plan investment, labour intensive brownfield replacement work, including 11kV switchgear replacement, will create peak demands in Sydney North and South areas; and
- Resource levelling of short term and localised demand peaks e.g. due to construction of four new zone substations in the Lower Hunter, will be required.

Field Resources

- The review of demand and supply indicates that at a high level the network maintenance and capital replacement programs are deliverable through Ausgrid's available field resources; and
- At a more detailed level a number of potential under and over supply issues have been identified, including:
  - An excess of [redacted];
  - Some current regional supply issues e.g. [redacted], will require a range of strategies; and
  - An ongoing [redacted]

Engineering and Management/Professional Resource Demands

The accuracy of the underlying demand and the resultant gap analysis is less robust in the area of Engineering and Management/Professional resources. More work is required to improve the forecasting of resource requirements for these areas with respect to activities both directly and indirectly related to the program. However, key trends indicate that there are no significant areas of undersupply. The changing nature of the program, from large scale individual projects to programs of work focussed on the distribution system, will see an increased demand for program management skills.

Table – Engineering and Management/Professional Resource Demands

Job Family / Job Category	Current Regulatory Period
Base Field	
Distribution Line workers	[redacted]
Distribution Jointers	[redacted]
Distribution technicians (substation)	[redacted]
Transmission Line workers	[redacted]
Transmission Jointers	[redacted]
Advanced Field	
District Operators	[redacted]
Protection, voltage regulation and tele-control technicians	[redacted]
Engineering	
General	[redacted]
Management/Professional	
General	[redacted]
Project Managers	[redacted]
Program Managers	[redacted]

22 Regional Issues

A number of regional resourcing gaps are emerging as the nature of the program changes. In particular the reducing program of works in the Central region is allowing these resources to be freed up to support programs in adjoining areas.

23 Conclusion

The forecast of potential gaps between demand and supply are considered modest and potentially within the sensitivity and accuracy limits of the current modelling considering its early stage of development. They are also heavily reliant on the planned attrition and hence are in the later years, provide both flexibility and lead time for ongoing reassessment and roll out of additional external resourcing.

A prime driver of demand is the changing nature of work forecast in the network component of Ausgrid's operations. This fluctuation in demand is driven by the mix of programs, scheduling of major projects at any one time and the need to outsource labour for certain works. For the same reasons just mentioned for driving fluctuations in the demand of labour, demand will not necessarily correlate with the forecast expenditure profile over the same period.

Proposed Delivery Strategy

This section of the plan provides a summary of the proposed delivery strategy for the current regulatory period. Broadly, Ausgrid's delivery strategy has the following main elements:

- Fully resource all core network maintenance activities using a combination of internal resources and 'business as usual' maintenance contracts;
- Allocate remaining available internal resources to delivery of the capital program, with priority given to distribution works and the more complex/risky programs which have a high strategic importance and a significant impact on overall operational performance;
- Continue the application of 'business as usual' external competitive delivery in a range of core and other areas;
- Review potential peaks in resource requirements for opportunities to smooth demand, and/or identify peak resourcing strategies;
- Identify potential areas of oversupply, and opportunities to utilise these resources in the short to medium term, while rebalancing of the workforce occurs; and
- Identify areas for potential productivity and other improvement through internal and external benchmarking.

Ausgrid seeks to drive further significant improvements in the efficiency with which works are delivered through:

- Application of a blend of internal and external delivery across all programs/projects to enable benchmarking and competitive tension both within the external market and internally;
- Identification of critical core areas where the combination of scarce experienced skills, variable scope and fast response lends itself to either internal and/or collaborative external delivery;
- Efficient bundling of work into increasingly larger packages to reduce internal and external contracting costs and program management costs and to provide more attractive packages to the external market;
- Emphasising the importance placed on the ability of contractors to bring cost saving innovation; and
- Adoption of more collaborative contracting models where appropriate, including risk sharing, performance incentive contracts and partnering arrangements.

Parallel approaches are being implemented to facilitate the delivery of the portfolio and drive efficiencies. These include:

- Implementation of a range of initiatives at Divisional level to improve the alignment of internal resources to the changing demands of the portfolio, through improved internal sourcing and skills development; and

- Development of a more robust process to determine the preferred approach for delivery of components of the portfolio over the longer term.

Internal Sourcing and Development Initiatives

Delivery strategies designed to improve our overall internal capability and efficiency have been considered under the following broad categories:

- Organisational structure and management development;
- Job design and work allocation; and
- Human resource management.

Organisational Structure and Management Development

A key strategy aimed at improving the alignment of internal resources to the changing needs of the portfolio is the reconfiguration of the three operating divisions. Within the new organisational structure, the roles of these divisions are:

- Engineering – is accountable for overseeing the strategic management of the network within the regulatory framework. The Division is responsible for providing long term stewardship of the network including policies, standards, growth, renewal and maintenance planning, and reliability and compliance management;
- Network Development – is accountable for the program management, development and delivery of network maintenance and capital programs, including life cycle program management and delivery of efficient and effective network asset management services. Network Development is also responsible for determining the resourcing delivery strategies for all programs as well as the ongoing monitoring and reporting of these programs. Where external delivery is determined as the most efficient option, Network Development procures and manages these programs directly.
- Network Operations – is accountable for delivery of the internally allocated and resourced maintenance and capital programs on the network and have the day to day responsibility for managing the system. The Division also has responsibility for managing customer connections and the interface with Accredited Service Providers (ASPs), with a prime focus on safely and efficiently providing a reliable supply of electricity for customers under a pseudo collaborative service provision model.

These roles provide a basis to strengthen portfolio and program management, and together with a realignment of investment governance processes, are designed to improve the efficient delivery of the overall portfolio. A number of management development areas have been identified to support this new structure:

Developing and Formalising Program Management

The need to strengthen the role of program managers, and to develop and formalise program management as a discipline within the governance framework has been identified. Further work to define requirements in this area is being defined as part of Stage 2 of the current governance review.

Project Management Competencies

This program is designed to build on, and improve, existing project management capability within Ausgrid, which will benefit internally and externally delivered maintenance and capital programs. These programs will also support improved program management.

Job Design and Work Allocation

A range of initiatives are currently being developed within the operating divisions to improve overall alignment of internal resourcing with the changing demands of the portfolio. Within the context of the broader Sustainability Program run by Networks NSW, Network Operations is reviewing opportunities in the following areas:

Work Allocation and Scheduling

This initiative focuses on increasing the volume of work going through a centralised scheduling system to improve the visibility and measurability of work and related crew sizes and more efficiently issue work to field staff, resulting in a reduction of travel and response times.

Field Force Automation

The Field Force Automation project will roll-out corporate iPads or similar devices to field-based employees to allow them to efficiently receive work orders, notifications and updated work/asset information and then automatically uploads completion results into the corporate asset management system while on the job.

The mobilisation of core field work will enable efficiencies in a range of processes including asset visibility, resource utilisation, equipment and material resource reduction, work agility and operational visibility. This program is aimed at ensuring both increased internal productivity and better asset management data.

Workforce Productivity and Practices

A review of work practices in the following areas is underway to identify opportunities for improvement

- Pole replacement;
- Scope and functions of Emergency Services Officers;
- Scope and functions of Installation Inspectors; and
- Contestable works process and standardisation.

Regional Delivery Model Program

This program is exploring alternative delivery models to achieve a lower cost of operations for a number of regional activities. This program will consist of a number of proof-of-concept pilots looking at a functional or geographical area.

In addition, the following initiatives are being implemented within Network Operations:

- Increasing the flexibility in location of staff through appointment to a region rather than a depot;
- Appointing to shift work rather than day work under the enterprise agreement;
- Multi-skilling of graduating substation technician apprentices in line work;
- Multi-skilling of existing sub-stations technicians as jointers in some distribution areas such as the Upper Hunter;
- Business process redesign of pole crews to improve productivity; and
- Reallocation of programs to resources in adjacent regions, to balance short term local demand and supply issues.

Human Resource Management

A number of broader human resource strategies are also being utilised.

Use of Overtime

The use of overtime is necessary often due to environmental or network issues e.g. where road access is only allowed out of peak hours and there are network loading restrictions on equipment outages. Targeted use of overtime aimed at the skill bottleneck in delivery is also critical e.g. an hour of overtime for an operator to provide a cut out could allow for improved normal time productivity of an entire work team.

Management of Natural Attrition and Redundancy

The workforce in the three operating divisions has already been reduced by about [redacted] through natural attrition and voluntary redundancy over the past two years and staff numbers are expected to continue to decline in a controllable and sensible way as the reform process continues. Opportunities to reconsider organisational structures, responsibilities and resourcing when staff leaves the organisation are also being taken. Additional strategies are outlined in the Strategic Workforce Plan.

Robust Process to Determine Preferred Approaches to Delivery

In addition to the above, a Blended Delivery program is in development and early implementation, focussed on determining the most cost effective delivery model for network maintenance and capital activities. This program will review the way we currently deliver projects and programs and identify areas that may benefit from the use of external resources to benchmark, or compare our performance. This blended delivery program is in addition to 'business as usual' use of external resources and the use of resources where specific expertise is not available in Ausgrid's workforce. It will also support increased efficiency in the delivery of the program over the period.

In order to deliver the network investment portfolio safely, efficiently and on time, and allocate sustainable levels of work to our staff, Ausgrid is developing a more robust process for determining the best approach to delivering projects and programs of work. In broad terms, the philosophy reflected in Ausgrid's processes is to acquire goods, services and equipment in an ethical manner that achieves the best value for money through the application of total life cycle cost principles.

The Blended Delivery program will be progressively implemented over the current regulatory period, with initial efforts being put into the delivery of two turnkey sub-transmission substations. In later years of the period, increased focus will be given to areas within the capital programs.

Delivery Model Assessment Framework

At the highest level the Blended Delivery program will work through the following key areas:

Table – Blended Delivery Program

Strategic Assessment	Preliminary Evaluation	Option Analysis	Solution Design	Implementation
Strategy definition / alignment	Market sounding	Option assessment	Market Engagement strategy	Transition plan
Best practice research	Evaluation Criteria	Business case	Governance arrangements	Staffing / resource strategies

Prioritised list of services	Operational Assessment	Service model options	Implementation plan	Change management
	Financial Assessment	Target selection		Stakeholder management

Delivery models, including internal resourcing, are selected using a structured process to match the assessed risk profile of a particular program/project to obtain best value for money. Industry best practice tools are used in the selection of an appropriate delivery strategy. Reviews are carried out to identify lessons learnt.

Value for Money Features

The majority of Ausgrid's capital investment program is subject to competitive tendering with the combined value of materials, equipment and contracted services being on average across all works in excess of 55%. While the maintenance program traditionally has a higher internal labour component competitive tendering applies to over 30% of expenditure with numerous non-core areas 100% outsourced e.g. vegetation management. Consideration of value for money in the process includes:

Conventional Contracts (e.g. Construct only, Design Development and Construct, Design Novate and Construct, Design and Construct):

- Bundling of similar work to obtain economies of scale and significant reduction in the number of contracts that need to be managed;
- Involvement of operation and maintenance personnel early in developing specifications to minimise scope creep and variations;
- Competitive tendering;
- Use of incentive provisions; and
- Nominated and/or free issue supplies /suppliers where goods or services are being obtained under separate higher volume contracts (e.g. transformers and switchgear) where it adds value.

Relationship Type Contracts:

- Rigorous selection process to select the most appropriate industry partner/s;
- Intensive commercial negotiation phase supported by internal and industry experts ensuring competitive margins (profit, over heads etc.);
- Independent expert validation of value for money for the Target Cost Estimates; and
- A significant proportion of contract value is delivered through sub contracts which use competitive tenders to ensure value for money.

The risks and benefits are considered when selecting a contract type. Ausgrid applies best practice Asset Management principles to provide the most efficient means of maintaining and operating the network. These principles start at the asset planning, design and procurement phases and determine around 85% of the asset's total life cycle costs, safety and reliability. Accordingly best practice and consistency across designs and the equipment installed on the network is paramount.

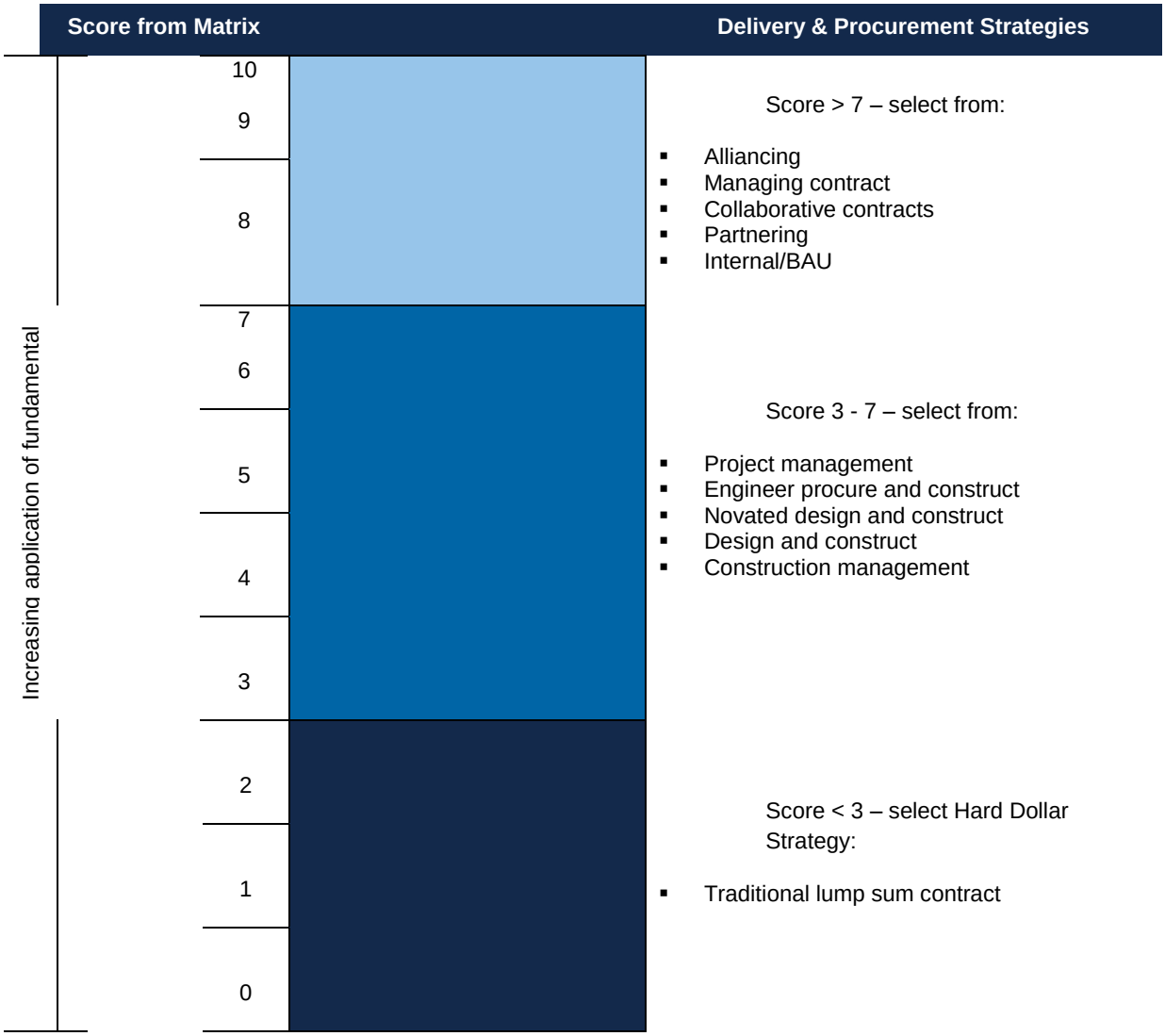
For all major projects there are business risks that must be considered. In particular, Ausgrid considers the electrical and network risks of a project. For example, staged brownfield substation developments present a greater degree of electrical/safety risk (non-electrical contractors on-site in a live operational environment), as well as load at risk (ensuring continuity of supply to customers) than greenfield sites. Ausgrid currently manages this risk by providing a high level of design input into complex major projects.

The following decision matrix is being used as a starting point for assessment of preferred delivery strategies. Four key decision elements are used in determining the suitability of projects and programs for various delivery strategies. The selection of the preferred strategy is then determined from the range of delivery options available.

Table – Example of Delivery and Procurement Strategy Suitability Matrix

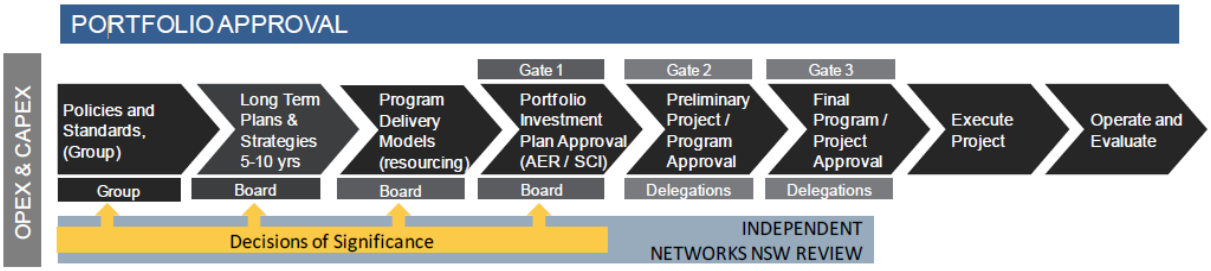
	Decision Elements	Weight %	Rating Score (Select a Score between 0 and 5)							Weighted Score (WT x Rating Score)
			Low Rating	0	1	2	3	4	5	High Rating	
1	Complexity & interfacing issues e.g. greenfield, brownfield,	35	Greenfield site/simple processes/few interfaces							Brownfield site, high complexity, multiple interfacing, likelihood of unknown factors	
2	Clarity in scope definition and outcomes	30	Well defined scope and outcomes							Definition of scope unclear or outcomes still being developed	
3	Ability to identify and quantify risk including: - Magnitude &/or manageability of environment, community and other stakeholder issues - Ability to manage safety outcomes	25	Few significant issues anticipated. Well defined risk. Risk can be clearly allocated.							High potential for significant issues. Hard to define risk. Risk sharing is appropriate	
4	Introduction of innovative technology including overseas experience	10	Well proven technology, limited scope for innovation							New & evolving technology, substantial scope & opportunity for innovation	
		100								Total Score	
										Normalised Score = Total Score / 50	
										(Transfer Normalised Score to Attachment 5)	

Diagram – Delivery and Procurement Strategy Selection



The updated network investment governance framework has strengthened the review of investment proposals at various gateways over the life cycle of a project or program.

Diagram – Networks NSW Investment Governance Framework



With the roll out of this framework, Ausgrid has already started to update its detailed policies and procedures to fully align with the new framework. This provides an opportunity to incorporate a more formal delivery review and selection process. The delivery option decision for major projects is now explicitly and consistently

made as part of the project development process. An overview of the preferred delivery strategy for each project will be included in the Gate 2 sign off, with further detail to be incorporated at Gate 3.

Examples of the use of this framework are outlined below.

Table – Example of the Application of the Delivery and Procurement Strategy Suitability Matrix for Alexandria and Munmorah STSs

* M = Munmorah, A = Alexandria

	Decision Elements	Weight %	Rating Score (Select a Score between 0 and 5)								Weighted Score (WT x Rating Score)
			Low Rating	0	1	2	3	4	5	High Rating	
1	Complexity & interfacing issues e.g. greenfield, brownfield,	35	Greenfield site/simple processes/few interfaces		[redacted]	[redacted]				Brownfield site, high complexity, multiple interfacing, likelihood of unknown factors	[redacted]
2	Clarity in scope definition and outcomes	30	Well defined scope and outcomes		[redacted]		[redacted]			Definition of scope unclear or outcomes still being developed	[redacted]
3	Ability to identify and quantify risk including: - Magnitude &/or manageability of environment, community and other stakeholder issues - Ability to manage safety outcomes	25	Few significant issues anticipated. Well defined risk. Risk can be clearly allocated.		[redacted]					High potential for significant issues. Hard to define risk. Risk sharing is appropriate	[redacted]
4	Introduction of innovative technology including overseas experience	10	Well proven technology, limited scope for innovation		[redacted]					New & evolving technology, substantial scope & opportunity for innovation	[redacted]
		100								Total Score	[redacted]
										Normalised Score = Total Score / 50	[redacted]
										(Transfer Normalised Score to Attachment 5)	

[redacted]

[redacted]

Table – Example of the Application of the Delivery and Procurement Strategy Suitability Matrix for Tower Line Works

	Decision Elements	Weight %	Rating Score (Select a Score between 0 and 5)							Weighted Score (WT x Rating Score)
			Low Rating	0	1	2	3	4	5 High Rating	
1	Complexity & interfacing issues e.g. greenfield, brownfield,	35	Greenfield site/simple processes/few interfaces						[redacted] Brownfield site, high complexity, multiple interfacing, likelihood of unknown factors	[redacted]
2	Clarity in scope definition and outcomes	30	Well defined scope and outcomes		[redacted]				Definition of scope unclear or outcomes still being developed	[redacted]
3	Ability to identify and quantify risk including: - Magnitude &/or manageability of environment, community and other stakeholder issues - Ability to manage safety outcomes	25	Few significant issues anticipated. Well defined risk. Risk can be clearly allocated.		[redacted]				High potential for significant issues. Hard to define risk. Risk sharing is appropriate	[redacted]
4	Introduction of innovative technology including overseas experience	10	Well proven technology, limited scope for innovation		[redacted]				New & evolving technology, substantial scope & opportunity for innovation	[redacted]
		100							**Total Score**	[redacted]
									Normalised Score = Total Score / 50	[redacted]
									(Transfer Normalised Score to Attachment 5)	

[redacted]

Table – Example of the Application of the Delivery and Procurement Strategy Suitability Matrix for Pole Replacement Works

	Decision Elements	Weight %	Rating Score (Select a Score between 0 and 5)							Weighted Score (WT x Rating Score)
			Low Rating	0	1	2	3	4	5	High Rating	
1	Complexity & interfacing issues e.g. greenfield, brownfield,	35	Greenfield site/simple processes/few interfaces		■					Brownfield site, high complexity, multiple interfacing, likelihood of unknown factors	■
2	Clarity in scope definition and outcomes	30	Well defined scope and outcomes		■					Definition of scope unclear or outcomes still being developed	■
3	Ability to identify and quantify risk including: - Magnitude &/or manageability of environment, community and other stakeholder issues - Ability to manage safety outcomes	25	Few significant issues anticipated. Well defined risk. Risk can be clearly allocated.		■					High potential for significant issues. Hard to define risk. Risk sharing is appropriate	■
4	Introduction of innovative technology including overseas experience	10	Well proven technology, limited scope for innovation	■						New & evolving technology, substantial scope & opportunity for innovation	■
		100								Total Score	■
										Normalised Score = Total Score / 50	■
										(Transfer Normalised Score to Attachment 5)	

[redacted]

Blended Delivery Projects

Consultation with staff has commenced with respect to broadening the scope of work currently utilising external resources. One component is aimed at the complete external delivery of a number of specific programs or projects. The model is being developed in response to the new challenges of the portfolio. It will allow Ausgrid to balance the use of external resources to benchmark our normal business program or project performance and drive our market competitiveness, with the sustainable allocation of work to our internal staff.

As part of this process, Ausgrid has issued a Request for Tender (RFT) for the first two proposed blended delivery projects – Alexandria and Munmorah sub-transmission substations (STS). These RFTs will allow us to compare our traditional internally-lead project delivery approach for major substation works to an external 'design & construct' delivery approach.

In addition, opportunities are being identified to utilise existing contracts to pick up potential shortfall in resources in some critical program areas e.g. pole replacement, service wire replacement and low mains. This will enable us to focus internal resources on high risk, priority programs such as bushfire defects.

24 Next Steps

This version of the SDP focuses on the scope of work to be delivered in the current regulatory period. The SDP has highlighted the following key program delivery issues:

- A declining overall delivery workload from the peak resourcing requirements in 2011/12;
- Despite this decline in overall investment, the nature of the projects and programs to be undertaken, including increased brownfield work, means that there will be a greater proportional demand for resources relative to the level of investment;
- Changes in the type of work will result in changes in the types of resources required to deliver the programs; and
- There will be a need to continue using external resources to deliver parts of the program to satisfy both resourcing and benchmarking requirements.

Based on this assessment and understanding of the scope, timing and funding requirements of the network maintenance and capital programs, it is concluded that the network maintenance and capital programs are deliverable through a mix of internal resources, business as usual contracting out and additional blended delivery in a range of program areas.

Some of the key next steps in the development of the SDP include:

- Improve the alignment between the mapping of demand and supply at the job category level;
- Undertake further analysis of demand and supply issues at a regional and distribution area level; and
- Confirm the forward program following the final determination by the AER and update the related demand analysis.

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Strategic Workforce Plan

December 2014

Strategic Workforce Plan

December 2014

Contents

1 Strategic Work Force Planning Definitions

Table - Definitions

Abbreviation / Term	Definition
AER	Australian Energy Regulator
BPC	Business Planning & Consolidation application used to support planning, budgeting, and forecasting within Ausgrid
CAPEX	Capital Expenditure
CMET	Contestable Metering
Current Regulatory Period	The regulatory control period commencing 1 July 2014 to 30 June 2019. Also referred to as the 2014/15 to 2018/19 regulatory period
EBA	Enterprise Bargaining Agreement
FTE	Full Time Equivalent Employees
GIS	Geographic Information System
Job Family	Job Families categorise functions into high level groupings, typically focusing on a common feature that distinguish them from other functions
Job Category	Job Categories align to the Job Families through the identification of positions into high level functions, typically focusing on a common feature that distinguishes then from other positions
NNSW	Network NSW
OPEX	Operating Expenditure
Operating Divisions	Engineering, Network Development and Network Operations
PMO Orders	Plant maintenance order types in SAP including PMO 1 – Planned PMO 2 – Corrective PMO 3 – Breakdown PMO 4 – Nature Induced PMO 5 – 3rd Party Damage PMO 8 – Non-Direct PMO 9 – Engineering Support
Previous Regulatory Period	The regulatory control period commencing 1 July 2009 to 30 June 2014. Also referred to as the 2009/10 to 2013/14 regulatory period
Primavera	Ausgrid's project planning and management solution
RRP	Revised Regulatory Proposal
SAP	Enterprise System used by Ausgrid covering financial, human resource and asset management information
SAP BI	SAP Business Intelligence
SDP	Strategic Delivery Plan

SRP	Substantive Regulatory Proposal
TSA	Transitional Services Agreement
WACC	Weighted Average Cost of Capital
YOY	Year on Year

2 Executive Summary

Background

A key deliverable of the General Manager Network Development and the General Manager People & Services is to develop a strategic workforce plan to deliver Ausgrid's business strategy over the next regulatory period. This plan is to be inclusive of all operations undertaken by Ausgrid, including network activities, support functions and unregulated business and be regularly updated.

In March 2014, Networks NSW (NNSW) endorsed and distributed a framework of the high level process, accountabilities and reporting requirements to guide the distributors in the preparations of strategic workforce plans.

In alignment with this framework, this plan outlines Ausgrid's resource demand requirements over the next regulatory period and the resource management strategies being considered to respond to the gaps identified from the analysis.

The 2014 – 19 regulatory period has a lower forecasted expenditure on capital as outlined in Ausgrid's Substantive and revised Regulatory Proposal (SRP). In addition to this reduction in capital expenditure, the organisation's operations will also be changing as a result of:

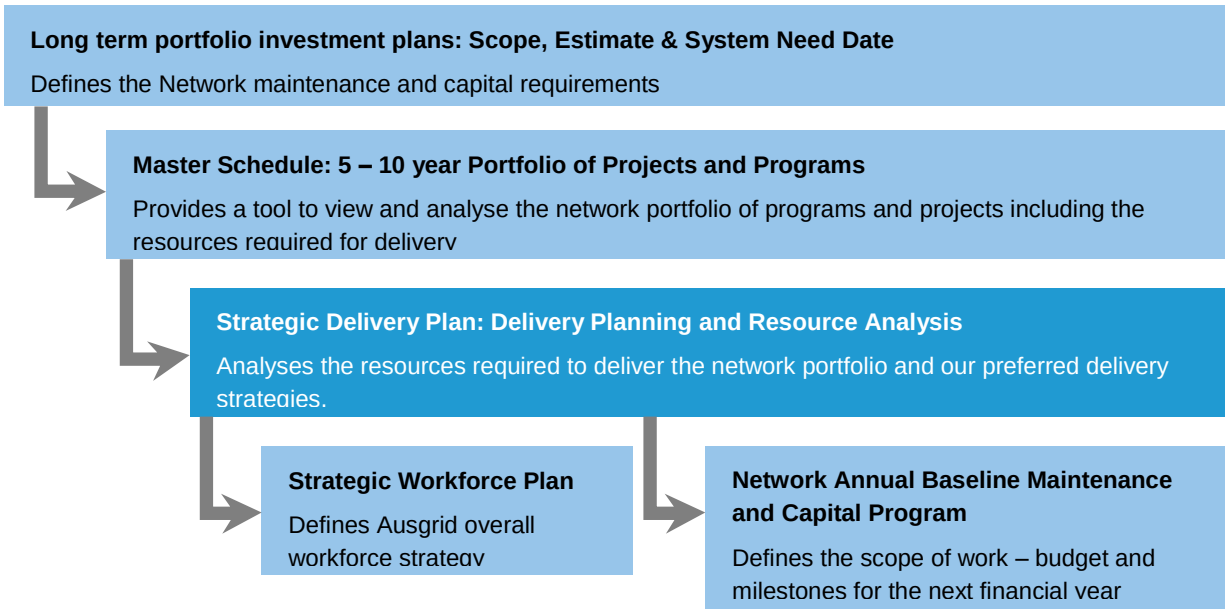
- Network Reform Program initiatives;
- The embedment of the final organisational structure; and
- The cessation of the EnergyAustralia retail services (Transitional Services Agreement) TSA.

The above items will have an impact on the demand for resources and as such, require a number of strategic workforce planning strategies to transition the organisation to the desired future state.

Purpose

The purpose of this paper is to provide an analysis of Ausgrid's resource requirements over the next regulatory period and an update on the broader development of Ausgrid's regular Strategic Workforce Planning Framework. It fits under and supports the Strategic Delivery Plan produced by Network Development which analyses all delivery requirements (internal and external) as outlined below.

Diagram – Integration of Portfolio Investment Planning, SDP and Strategic Workforce Planning Process



3 Strategic Workforce Analysis - Summary

The existing FTE supply (inclusive of employees and labour hire), required to deliver Ausgrid's RRP after taking into consideration attrition, planned redundancies and anticipated retirements, the following labour will be available over the next five years as shown below.

Table - Total Network Resource Supply Analysis (Employee and Labour Hire) (FTE)

Total Network Resource Supply Analysis (Employee and Labour Hire) (FTE)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Supply Overtime	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support and other Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply [1]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Standard Control Services Supply [2]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Standard Control Services Supply YOY Reductions [3]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

For the vast majority of FTE's time is directly booked to a specific activity codes e.g. capital job numbers, maintenance tasks etc. This then provides valuable data for both asset management and corporate financial reporting and control.

[1] Total Supply represents all services provided by Ausgrid excluding Transitional Services Agreement (TSA).

[2] Standard Control Services includes all direct expenditure on the network or operations to support the network.

[3] Standard Control Services Supply YOY Reductions is a year on year reduction in FTE against Standard Control Services Supply.

Some time is however either not clearly attributable to an established code, or related to overhead functions such as training, management, administrative and related functions. Accordingly, the utilisation rate is necessary to apply to model required activity to FTE's.

Based on historical data the utilisation rate of [redacted] has been used as the base scenario however with a range of network reform program productivity initiatives underway the model has used a forecast rate increasing progressively to [redacted]

Ausgrid has revised its submission (January 2015), with a base scenario utilisation rate of [redacted] and will now require [redacted] as shown below.

Based on both supply and demand analysis this equates to an oversupply of 268 FTE's for FY 2015 decreasing to an undersupply of 568 for FY 2017 and a further undersupply of 836 for FY 2019.

The following table provides the Employee and Labour Hire total Network Resource Supply & Demand Analysis by FTE with an incorporated [redacted] utilisation rate.

Table - Total Network Resource Supply & Demand Analysis (Employee and Labour Hire) (FTE)

Total Network Resource Supply & Demand Analysis (Employee and Labour Hire) (FTE)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Supply (Overtime)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Excess / (Under Supply)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The following analysis incorporates a yearly utilisation rate [redacted] via productivity improvement initiatives indicates that Ausgrid will have [redacted] from FY 2015 based on the underlying assumptions of the strategic workforce planning model (as shown in Appendix A) with the majority of the excess within the Network component of the business. For [redacted]

The following table provides the Employee and Labour Hire total Network Resource Supply & Demand Analysis by FTE with an incorporated [redacted].

Table - Total Network Resource Supply & Demand Analysis (Employee and Labour Hire) (FTE)

Total Network Resource Supply & Demand Analysis (Employee and Labour Hire) (FTE)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Supply (Overtime)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Excess / (Under Supply)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

4 Strategic Workforce Planning Framework

Purpose

The purpose of Ausgrid's Strategic Workforce Planning Framework is to provide management with the required tools to identify and respond to resource gaps, now and into the future.

Objectives

The objectives of the Strategic Workforce Planning Framework are to:

- Quantify the network resource requirements to deliver future capital programs, operational expenditure programs and alternate control services;
- Quantify the support and overhead resource levels appropriate for the resulting network activity;
- Identify the future resource surpluses and/or deficits; and
- Determine the requisite workforce management strategies which match resource supply and demand.

In addition to the above, Ausgrid engages in a number of unregulated operations and other commercial interests which have also been factored into the analysis.

Strategic Workforce Planning Framework Project

To ensure the necessary level of rigour and priority was given to the project, a Steering Committee comprising of the Chief Operating Officer and Ausgrid General Managers was established to direct the process. With this, a working group consisting of representatives from across the business was formed to assist in the development of a Strategic Workforce Planning Model.

Structure

The Working Group reviewed the scope of the project and established a plan to segregate the project into three distinct key Operational areas:

- Network Resource Plan:
  - Network maintenance program;
  - Network capital program, including public lighting;
  - Metering services;
  - Ancillary network services; and
  - Network overheads.
- Support Resource Plan:
  - Finance & Compliance;
  - Health, Safety & Environment;
  - Information, Communications & Technology;
  - People & Services; and
  - Executive.
- Unregulated Business Resource Plan:
  - External, Contestable & Recoverable Works;
  - Contestable Metering (CMET); and
  - Other external businesses.

Individual resource demand and supply plans were developed for each area. These plans provided the foundation for the creation of workforce management strategies and are based on the employee Job Family and Job Category (Appendix B) levels by division and region (data contingent).

Base Assumptions

The Strategic Workforce Planning Framework has been based upon assumptions that underpin Ausgrid's SRP and the RRP for Network Services and the plan for unregulated activity. Specific base assumption details can be found in Appendix A.

Systems & Tools

As Ausgrid utilises a number of time entry systems, the Strategic Workforce Planning Model provides a single consolidated location for the housing of all labour related data. This information provides comprehensive recording and reporting of labour attributed to capital projects, operational service orders and general support functions.

Historical data has been extracted from SAP and together with forward estimates, fed into Primavera (Ausgrid's project planning and management solution) and used as the primary data source for the Strategic Workforce Planning model. This information provides the basis for the estimation of resources required to deliver the forecasted network capital and maintenance as included in the RRP. The same SAP data source has also been used to forecast the demand for Alternate Control Metering and Unregulated services. Detailed 'bottom up' forecast models utilised in the RRP for Ancillary Metering & Network Services and Public Lighting has been factored into the strategic workforce planning model.

Additionally, SAP Business Intelligence (SAP BI) reporting has been established to extract SAP time entry data to provide the basis for the analysis of labour utilisation rates and the ratio of capital versus operational activity at a more detailed level.

Strategic Workforce Planning

A concept model for Strategic Workforce Planning has been developed and forms the basis of the attached analysis. A strategic workforce planning model is being developed in a SAP BPC environment. This will provide Ausgrid with:

- A robust platform allowing for the effective use of a significant volume of data; and
- The ability to develop data, calculation tables and queries for key input variables, drivers and specific scenario analysis.

The preliminary strategic workforce planning analysis undertaken in June 2014 saw the creation of the Strategic Workforce Planning Model. Throughout this time, the model has been refined by the Workforce Planning & Analytics Manager in conjunction with the Network Divisions. The refinement process will continue in order to meet the needs of the business. Workforce Demand and Supply Plan

Strategic Workforce Analysis

For the vast majority of FTE's time is directly booked to a specific activity codes e.g. capital job numbers, maintenance tasks etc. This then provides valuable data for both asset management and corporate financial reporting and control.

Some time is however either not clearly attributable to an established code, or related to overhead functions such as training, management, administrative and related functions. Accordingly, the utilisation rate is necessary to apply to model required activity to FTE's.

Based on historical data the utilisation rate of [redacted] has been used as the base scenario however with a range of network reform program productivity initiatives underway the model has used a forecast rate increasing progressively to [redacted]

Ausgrid has revised its submission (January 2015), with a base scenario utilisation rate of [redacted] and will now [redacted] as shown below.

Based on both supply and demand analysis this equates to an [redacted]

The following table provides the Employee and Labour Hire total Network Resource Supply & Demand Analysis by Activity and FTE with an incorporated [redacted] utilisation rate

Table - Total Network Resource Supply & Demand Analysis by Activity (Employee and Labour Hire) (FTE)

Total Network Resource Supply & Demand Analysis (Employee and Labour Hire)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Supply (Overtime)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support & Other Excess	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Excess / (Under Supply)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

5 Total Resource Demand

Based on an analysis of the outputs from the base Strategic workforce planning model, the total resource demand for Ausgrid based on the RRP and operational plans is contained in the following table.

6 Demand Activity By Year

Representation of resource demand by Activity and Year by FTE is as follows;

Table - Total Network Resource by Activity and Program (Employee and Labour Hire) (FTE)

Total Network Resource by Activity and Program (Employee and Labour Hire)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Activity	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
System Capital	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
System Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Overheads	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
GIS	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ancillary Network Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support Functions	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Executive	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance & Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health, Safety & Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Information, Communications & Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
People & Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unregulated Business	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contestable Metering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
External Business	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

7 Demand Drivers

The predominate demand drivers are related to Network Activity and Support Services.

Network Activity

The 2009-2014 regulatory period was characterised by an initial build-up of capacity to deliver a significant investment in the Ausgrid Network after a sustained period of underinvestment. This investment allowed for the upgrade and renewal of parts of our asset base. This activity peaked in 2011/2012 and has subsided substantially over the past two years.

The forecasted capital program represents a substantial financial reduction from the previous regulatory period however it is characterised by being a more labour intensive program due to a transition from large green field projects to brown field and transmission and sub transmission to distribution level. The focus will be on the continued renewal of the network to maintain the level of safety and reliability currently being achieved.

System maintenance activity is expected to marginally increase over the period predominantly within 'Inspection' tasks as a result of improved completion rate of maintenance activities and an increase in task volumes associated with growth in the asset base. Other maintenance activity is expected to continue with existing trends.

Support Services

The demand for support services has been driven by the Network Reform Program to consolidate and centralise support functions as part of the restructure of the organisation. Proposed operating models based on 'right-sizing' the organisation to its future state have been factored into the demand analysis. These operating models will be continually reviewed as the organisations operations change over time.

8 Productivity Improvement

As a result of Ausgrid's ongoing focus and investment in productivity and efficiency improvement e.g. field force automation capability and the harmonisation of operational functions, the base scenario factors in productivity improvement consistent with the SRP and RRP. Further productivity gains may also be achieved through the centralisation of functions resulting from the restructure.

9 Total Resource Supply

Based on an extrapolation of the existing internal supply (inclusive of labour hire employees), over the next five year period after taking into consideration attrition, planned redundancies and anticipated retirements, the following internal labour will be available over the next five years:

10 Supply Activity

Representation of resource supply by activity, division, job family and year by FTE is as follows;

Table - Employees Resource Supply by Division and Year (FTE)

Employees Resource Supply by Division and Year (FTE)					
Division	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Development	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance & Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health Safety & Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Information Communication & Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
People & Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Executive	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Overtime	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply including Overtime	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Labour Hire Resource Supply by Division and Year (FTE)

Labour Hire Resource Supply by Division and Year (FTE)					
Division	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Development	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance & Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health Safety & Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Information Communication & Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
People & Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Executive	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Total Resource Supply by Division and Year (Employee and Labour Hire) (FTE)

Employee & Labour Hire Total Resource Supply by Division and Year (Employee and Labour Hire) (FTE)					
Division	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Development	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance & Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health Safety & Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Information Communication & Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
People & Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Executive	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Overtime	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply including Overtime	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Employees Resource Supply by Job Family and Year (FTE)

Refer to Appendix B for Job Family and Job Category Classifications

Employees Resource Supply by Job Family and Year (FTE)					
Job Family	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Base Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Development Programs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Labour Hire Resource Supply by Job Family and Year (FTE)

Labour Hire Resource Supply by Job Family and Year (FTE)					
Job Family	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Base Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Development Programs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Total Network Resource Supply by Job Family Overtime (Employee and Labour Hire) (FTE)

Total Network Resource Supply by Job Family Overtime (Employee and Labour Hire) (FTE)					
Job Family	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Base Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Development Programs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table - Total Network Resource Supply by Job Family – Normal Time + Overtime (Employee and Labour Hire) (FTE)

Total Network Resource Supply by Job Family – Normal Time + Overtime (Employee and Labour Hire) (FTE)					
Job Family	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Base Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Development Programs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

11 Delivery Options

The demand analysis undertaken in the Strategic Delivery Plan is based on the total resource demand. This includes programs where Ausgrid traditionally has limited or no internal expertise such as cable laying, civil construction, vegetation management and asbestos control and hence business as usual contracting takes place.

The base model scenario uses existing business practice as a guide to calculate the split between internal and external labour. This is then projected including additional external resourcing initiatives such as 'blended delivery'.

Overtime has been factored into the internal supply analysis based on the 2014/15 operational labour budget and forward plan. This is equivalent to approximately [redacted] of the total Network demand resource requirement and a negligible amount of the Support demand.

Other areas of Network demand have been based on activities undertaken internally. It is therefore assumed that all resulting resource demand will be delivered by Ausgrid employees and/or labour hire.

12 Supply Demographic Analysis

The Supply demographic analysis consists of a number of analysed profiles;

Age and Retirement Profile

Ausgrid has an aging population with a growing number of employees falling within the retirement age bracket [redacted] A detailed analysis of Aging Profiles by Job Family and Job Category and can be found in Appendix D.

Table – Employee Age Profile as at 30 June 2014 (FTE)

Employee Age Profile as at 30 June 2014 (FTE)		
Age Bucket	**FTE**	**Proportion**
Under 25 Years	[redacted]	[redacted]
25-39 Years	[redacted]	[redacted]
40-49 Years	[redacted]	[redacted]
50-59 Years	[redacted]	[redacted]
60-64 Years	[redacted]	[redacted]
65+ Years	[redacted]	[redacted]
Total Employees	[redacted]	[redacted]
Labour Hire	[redacted]	
Total Employees and Labour Hire	[redacted]	

Based on an analysis of annualising the retirement rate of each age bracket greater than 50 over the past four years, approximately [redacted] of the internal FTEs retire per annum. This retirement rate has been factored in to the annual labour supply attrition rate.

Geographic Profile

Ausgrid's employee base can be further split by;

- Region:
  - South: Sydney CDB, Sydney South, Eastern Suburbs and Inner West
  - Central: Sydney North and Central Coast
  - North: Newcastle, Port Stephens and Upper Hunter

Table – Employee Region Profile by Year (FTE)

Employee Region Profile by Year (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Employees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table – Labour Hire Region Profile by Year (FTE)

Labour Hire Region Profile by Year (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Labour Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table – Total Region Profile by Year (Employee and Labour Hire) (FTE)

Total Region Profile by Year (Employee and Labour Hire) (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Employees and Labour Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

- Area:
  - Sydney South: Sydney CDB, Oatley, Zetland, Silverwater, Homebush
  - Sydney North: Dee Why, Chatswood, Hornsby
  - Central Coast: Gosford, Ourimbah, Tuggerah
  - Newcastle: Newcastle, Port Stephens and Upper Hunter

Table – Employee Area Profile by Year (FTE)

Employee Area Profile by Year (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central Coast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hunter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Employees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table – Labour Hire Area Profile by Year (FTE)

Labour Hire Area Profile by Year (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central Coast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hunter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Labour Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table – Total Area Profile by Year (Employee and Labour Hire) (FTE)

Total Area Profile by Year (Employee and Labour Hire) (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Central Coast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]1
Hunter	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sydney South	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Employees and Labour Hire	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

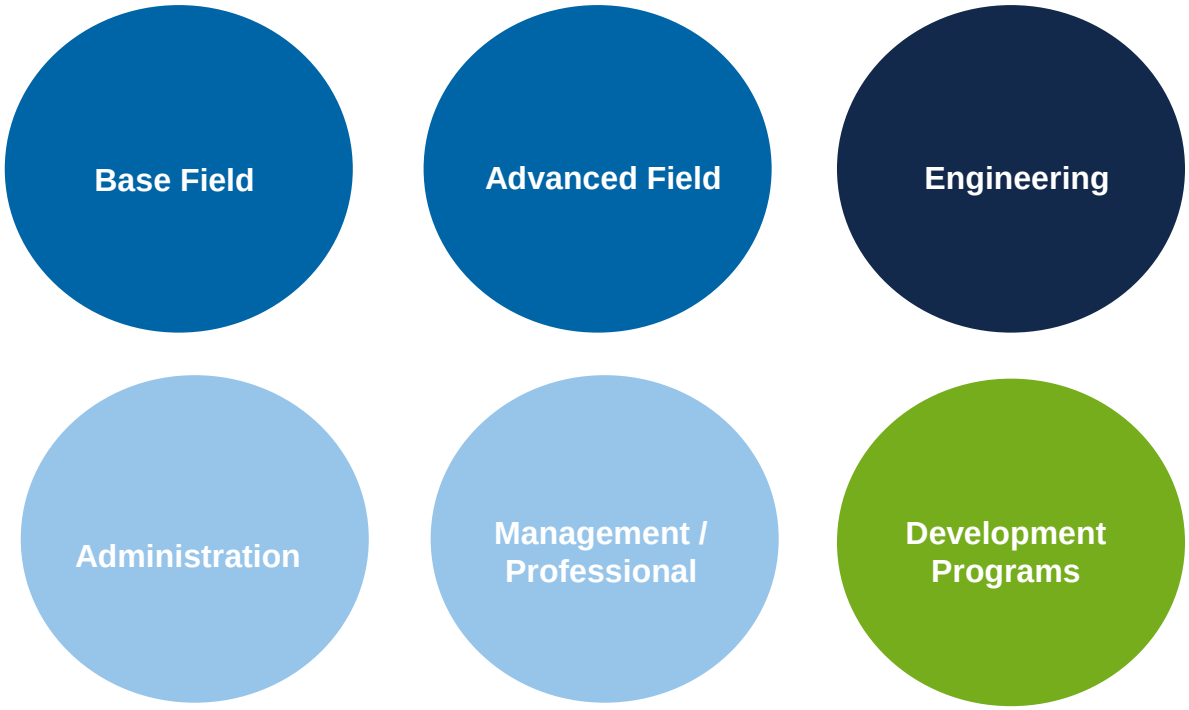
- Depot:
  - Depot suburb location – refer to Appendix D

Job Family and Job Category Profile

Job Families categorise functions into high level groupings, typically focusing on a common feature that distinguish them from other functions. These are then further broken down into Job Categories which align to Job Families through the identification of positions into high level functions, typically focusing on an common feature that distinguish them from other positions.

These categorisations have been utilised for each of the resource demand plans to identify if there are any particular skill gaps over the period. Detailed analysis by Job Family and Job Category can be found in Appendix B.

Diagram - Job Family Categories



Attrition Profile

Attrition profile is an amalgamation of;

- Natural Attrition:
  - Resignation;
  - Retirement;
  - Deceased; and
  - Medical.
- Planned Redundancies:
  - Voluntary Redundancy
  - Genuine Redundancy

Attrition rate has been modelled based on a planned rate (excluding TSA). This includes natural attrition and voluntary redundancies.

13 Strategic Workforce Planning Strategies

The impact of Network Reform Programs and the cessation of TSA Operations have changed the nature of Ausgrid's operations through the creation of a centralised operating model. As a result, Ausgrid has developed a number of strategic workforce planning reduction strategies to minimise and manage the number of employees stranded within the organisation. Operating within an environment without the ability to introduce forced redundancy programs for the broad Enterprise Bargaining Agreement (EBA) employees restricts Ausgrid to the use of a limited number of workplace management instruments such as:

Table – Strategic Workforce Planning Strategies

Strategic Workforce Planning Reduction Strategies	
Initiative	**Overview**
Mix & Match Campaigns	Program offers redeployment opportunities for employees wishing to remain at Ausgrid and voluntary redundancy for those employees who wish to exit Ausgrid.
Voluntary Redundancy Campaigns	Employees whose role has been identified as surplus to business requirements and the employee choses to leave the organisation.
No Replacement of Attrition	No recruitment process to replace staff who exit the organisation though resignation or retirement.
Mandatory redundancy – contract staff	A mandatory redundancy of an excess contract employee under the provisions of their employment contract.
[redacted]	[redacted]
Reduction in Apprenticeship Scheme	Reduction in numbers of approved apprenticeships across specific trades and locations.
Fixed Term Staff Roll offs and redundancy	Reduction of fixed term staff through non-renewal or redundancy.
Cross utilisation of work services with Endeavour and Essential	Provide work services to other operating companies where the pipeline of work indicates underutilisation of staff and opportunities for cross services.
Recruitment	Utilise internal recruitment teams to attract internal/external candidates to roles identified as being crucial to BAU. Develop recruitment campaigns to fill skill shortages.
Contractors/labour hire plans	Project based/fixed term programs where long term requirement is not identified.

Appendix A: Strategic Workforce Planning Model Assumptions

Appendix A1: Work Force Planning Model Assumptions

Network overhead demand has been capped by the FTE requirements as per the proposed operating models. The proportion of activity booked directly by overhead staff to jobs has been factored into the Primavera calculations. As such, a ratio based on historical bookings has been applied to the Network Overheads to remove this impact and ensure hours are not double counted.

Further modelling is required to understand the true fixed and variable nature of these Network Overhead functions to better align the demand for services that are directly aligned to system capital, system maintenance, external and other network activities.

Appendix A1.1 Resource Demand Assumptions

Resource Demand Assumptions		
Demand Plan	**Base Assumptions**	
Network Capital	**Based on the outcomes of the 14/19 AER Initial Proposal and Revised Regulatory Proposal capital program as follows:**	
	Replacement Plan	Based on unit rate and quantity estimate templates in Primavera for planned programs, and extrapolation of historical direct hours booked to projects and forward estimates for reactive programs.
	Duty of Care Plan	Based on unit rate and quantity estimate templates in Primavera for planned programs, and extrapolation of historical direct hours booked to projects and forward estimates for reactive programs.
	Area Plans	Based on a bottom up build of resources required based on historical direct hours booked to projects over the past three years as produced from Primavera
	HV & LV Capacity	Based on unit rate and quantity estimate templates in Primavera, utilising historical direct hours booked to projects and forward estimates.
	Customer Connections and Ancillary Services	Based on historical review of expenditure and expenditure in previous periods, connection policy decisions, and factors such as changes in demand and changes in customer connection activity as produced from Primavera
	Public Lighting	Based on bottom up build of resources required for each capital task provided in house for the Public Lighting RRP.
	Other key assumptions for Network Capital	
	Split between internal and external labour	The demand analysis undertaken in Primavera has generally been based on the total resource demand for system capital with the exception of programs where Ausgrid traditionally has limited or no internal expertise such as: Civil construction; Cable laying; Pole replacement, above base levels undertaken internally.
System Maintenance	**Based on the outcomes of the 14/19 AER Initial Proposal and Revised Regulatory Proposal OPEX program as follows:**	
	Inspection	Based on planned annual maintenance task volumes multiplied by 2012/13 average time per task obtained from all entries to PM01 inspection work orders in SAP, utilising templates in Primavera.

		Inspection tasks traditionally carried out by external contractors (such as vegetation management, pole inspections and asbestos audits) have not been included in the demand.
	Corrective	Based on 2012/13 actual results obtained from all entries to PM02 correction work orders in SAP, utilising templates in Primavera.
	Breakdown	Based on 2012/13 actual results obtained from all entries to PM03 breakdown work orders in SAP, utilising templates in Primavera.
	Nature Induced	Based on average of 2009/10 to 2012/13 actual results obtained from all entries to PM04 nature induced work orders in SAP, utilising templates in Primavera.
	Damage by 3rd Party	Based on average of 2009/10 to 2012/13 actual results obtained from all entries to PM05 damage by 3rd parties work orders in SAP, utilising templates in Primavera.
	Engineering Support	Based on 2012/13 actual results obtained from all entries to PM09 engineering support work orders in SAP, utilising templates in Primavera.
	Non-Direct	Based on 2012/13 actual results obtained from all entries to PM08 non direct work orders in SAP, utilising templates in Primavera.
Metering Services	**Based on the outcomes of the 14019 AER SRP and RRP OPEX program as follows:**	
	Metering Capital	Based on planned 14/19 annual installation volumes multiplied by 2012/13 average time per task obtained from all entries to metering capital projects in SAP.
	Alternate Control Services	Based on 2012/13 actual results obtained from all entries to relevant metering provision and technology internal orders in SAP.
	Standard Control Services	Based on 2012/13 actual results obtained from all entries to relevant metering provision and technology internal orders in SAP.
	Ancillary Services	Based on bottom up build of resources required for each service provided obtained from all entries to relevant metering provision and technology internal orders in SAP.
	Based on the Contestable Metering forecast for 2014/15	
	Contestable Metering OPEX	Based on 2013/14 projected results extrapolated by forecast activity per CMET Sale Information Memorandum.
	Contestable Metering Capital	Based on 2013/14 projected results extrapolated by forecast activity per CMET Sale Information Memorandum.
Public Lighting	**Based on the outcomes of the 14/19 AER SRP and RRP Public Lighting plan as follows:**	
	Public Lighting Maintenance	Based on bottom up build of resources required for each maintenance service provided in-house for the Public Lighting SRP. Included in Network Maintenance templates in Primavera.
	Public Lighting Capital	See Network Capital
Ancillary Network Services	**Based on the outcomes of the 14/19 AER SRP and RRP OPEX program as follows:**	
	Ancillary Network Services	Based on bottom up build of resources required for each service provided.
Network Overheads	**Based on the proposed operating models as follows:**	
	Chief Engineer	Based on proposed operating model (excluding GIS capital program) less amounts directly booked to projects and orders.
	Network Development	Based on proposed operating model less amounts directly booked to projects and orders. (excluding metering capital program)
	Based on existing staff structure:	
	Network Operations	Based on proposed operating model less amounts directly booked to

		projects and orders.
Support Services	**Based on the proposed operating models as follows:**	
	Finance & Compliance	Based on proposed operating model (excluding TSA and Metering Operations)
	Health, Safety & Environment	Based on proposed operating model.
	Information, Communications & Technology	Based on proposed operating model and AER IT capital expenditure program.
	People & Services	Based on proposed operating model (excluding Learning & Development which his based on current employee base (per SAP HR database) as proposed operating model not final).
	Executive	Based on current employee base inclusive of Ausgrid employees engaged by Networks NSW and the Board of directors.
	TSA Services	TSA has been excluded from this plan.

Appendix A1.2 Network and Support Supply Assumptions

External operations resource demand is delivered from the Network and Support employee base and as such does not have a separate supply pool.

Network and Support Supply Assumptions		
Supply Input	**Base Assumption**	**Amount**
Labour Supply Data	Full employee listing from SAP HR Database as at 30 June 2014	[redacted]
Attrition Profile	Based on planned Attrition rate (excluding TSA (weighted average applied annually). Includes natural attrition and voluntary redundancies.	[redacted]

Appendix A1.3 Labour Utilisation Rate Assumptions

Labour Utilisation Rate Assumptions		
Demand Function	**Base Assumption**	**Rate**
Network (Direct)	Based on[redacted] direct booking of labour on specific network activity. This is inclusive of training time.	[redacted]
Network (Overhead)	Based on proposed operating models encompassing all operational functions therefore no factor for utilisation is required.	100%
External	Based on[redacted] direct booking of labour on specific network activity. This is inclusive of training time.	[redacted]
Support	Based on proposed operating models encompassing all operational functions therefore no factor for utilisation is required.	100%

For the vast majority of FTE's time is directly booked to a specific activity codes e.g. capital job numbers, maintenance tasks etc. This then provides valuable data for both asset management and corporate financial reporting and control.

Some time is however either not clearly attributable to an established code, or related to overhead functions such as training, management, administrative and related functions. Accordingly, the utilisation rate is necessary to apply to model required activity to FTE's.

Based on historical data the utilisation rate of [redacted] has been used as the base scenario however with a range of network reform program productivity initiatives underway the model has used a forecast rate increasing progressively to [redacted]

Appendix A1.4 Overtime Supply Assumptions

Overtime Supply	
Total Overtime	Overtime supply has been based on the total number of overtime hours factored into the 2014-15 Operational Labour Plan and budget. The resulting proportion of overtime as a factor of Resource Demand has been extrapolated forward over the remainder of the next regulatory period.

Appendix A1.5 FTE Calculation Assumptions

FTE Calculation Assumptions		
Calculation of Available Hours per FTE		**Hours**
Total Standard Working Hours		
Working weeks (based on 365 days)	52.1 weeks	
Standard hours per week	36 hours	
Total standard working hours per year	**Working weeks x standard hours**	**1,877.1**
Less: Average Leave Hours		
Annual leave weeks taken per annum	4 weeks	
Sick leave weeks taken per annum	1 week	
Total leave weeks taken per annum	5 weeks	
Total standard leave hours per year	**Total leave weeks x standard hours**	**-180.0**
Less: Other Holiday Leave		
Public holidays per annum	9 days	
Ausgrid picnic day	1 picnic day	
Half day concession	0.5 days	
Total other holiday leave days	10.5 days	
Total other holiday leave hour per year	**Total other holiday leave days x 7.2 hr. per day**	**-75.6**
Total available hour per FTE		**1,621.5**

Appendix B: Job Family and Job Category

Appendix B1: Job Family and Job Category Classification

Job Families categorise functions into high level groupings, typically focusing on a common feature that distinguish them from other functions. These are then further broken down into Job Categories which align to Job Families through the identification of positions into high level Functions, typically focusing on an common feature that distinguish them from other positions.

Appendix B1.1 Job Family and Job Category

Job Family and Job Category	
Job Family	**Job Category**
Administration	Customer Service
	Network Data Officer
	Business Support
	Field Support Officer
Management / Professional	Accounting
	Business Analyst
	Commercial Analyst
	Technical Analyst
	Functional Analyst
	ICT Specialist
	ICT Developer
	Business Services
	Compliance
	Contracts Management
	Field Supervisor
	Field Manager
	Health & Safety
	Environment
	Human Resources
	Metering Technology
	Works Scheduler
	Trainers
	Project Manager
	Program/Portfolio Manager
	Community Engagement
	Engineering Professional
	Engineering Paraprofessional
	Estimators
	Security
	Management
Development Programs	Apprentice - Electro Technologist
	Apprentice - Overhead
	Apprentice - Underground
	Trainees
	Work Experience
	Cadets
	Graduates
Base Field	Distribution Jointer
	Distribution Line worker

	Distribution Technician
	Transmission Jointer
	Transmission Line worker
	Transmission Technician
	HV Services
	LV Services
	Metering Operation Technician
	Risk Mitigation Technician
	Workshop Technician
	Asset Access
	Customer Connection Technician
	Electricity Supply Officer (ESO)
	EMSO
	Compliance Inspector
	Network Data Field
Advanced Field	District Operator
	Protection Technician
	Tele Control Technicians
	High Voltage Cable Test
	Voltage Regulation Technician
Engineering	Area / System Operator
	Communication Design
	Control & Protection Design
	Earthing & Insulation Design
	Layout Design
	Mains Design
	SCADA Design
	SCADA Operational
	Network Planners
	Network Operations Design
	Policies & Standards, Specifications and Investigations
	Non Electrical Engineering Services

Appendix C: Network Resource Demand Analysis

Appendix C1: Total Network Activity Resource Demand

Appendix C1.1 Total Network Resource by Activity (FTE)

Total Network Resource by Activity (FTE)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Activity	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support Functions	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unregulated Business	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C1.2 Total Network Resource by Activity and Program (FTE)

Total Network Resource by Activity and Program (FTE)					
Activity	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Network Activity	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
System Capital	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
System Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Overheads	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
GIS	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ancillary Network Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Support Functions	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Executive	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Finance & Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health, Safety & Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Information, Communications & Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
People & Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unregulated Business	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contestable Metering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
External Business	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C2: Total Network Resource Demand by Job Category

Appendix C2.1 Total Network Activity Resource by Job Category (FTE)

Total Network Activity Resource Demand by Job Category (FTE) Job Category	FY15	FY16	FY17	FY18	FY19
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]6
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C2.2 Total Network Support Resource Demand by Job Category (FTE)

Total Network Support Resource Demand by Job Category (FTE) Job Category (Operational)	FY15	FY16	FY17	FY18	FY19
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C2.3 Total External Resource Demand by Job Category (FTE)

Total External Resource Demand by Job Category (FTE) Job Category (Operational)	FY15	FY16	FY17	FY18	FY19
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C2.4 Total Resource Demand by Job Category (FTE)

Total Resource Demand by Job Category (FTE) Job Category (Operational)	FY15	FY16	FY17	FY18	FY19
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C2.5 Network Divisional Support (FTE)

Network Divisional Support (FTE) Division	FY15	FY16	FY17	FY18	FY19
Chief Engineer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Development	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C3: System Capital & System Maintenance

Appendix C3.1 System Capital & System Maintenance by Program & Activity (FTE)

System Capital & System Maintenance by Program & Activity (FTE) Activity	FY15	FY16	FY17	FY18	FY19
Area Plan	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Replacement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Duty of Care	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV & LV Capacity	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connections and Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Public Lighting Capex	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Capital	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Planned Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Corrective Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Breakdown Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nature Induced	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3rd Party	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Direct Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maintenance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C3.2 Total Network Resource Demand by Job Category System Capital &System Maintenance (FTE)

Total Network Resource Demand by Job Category System Capital &System Maintenance (FTE) Job Category	FY15	FY16	FY17	FY18	FY19
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C4: Metering Services

Appendix C4.1 Metering Services by Program (FTE)

Metering Services by Program (FTE)					
Program	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Metering Capital Program	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Type 5 & 6 Alternate Control Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ancillary Metering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C4.2 Metering Services by Job Category (FTE)

Metering Services by Job Category (FTE)					
Job Category	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C5: Ancillary Network Services

Appendix C5.1 Ancillary Network Services by Program (FTE)

Ancillary Network Services by Program (FTE)					
Program	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Quoted Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fee Based Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C5.2 Ancillary Network Services by Job Category (FTE)

Ancillary Network Services by Job Category (FTE)					
Job Category	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C6: Geospatial Information System

Appendix C6.1 Geospatial Information System by Program (FTE)

Geospatial Information System Network Services by Program (FTE)					
Program	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Geospatial Information System	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix C6.2 Geospatial Information System by Job Category (FTE)

Geospatial Information System Network Services by Job Category (FTE)					
Job Category	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Demand	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D: Network Resource Supply Analysis

Appendix D1: Network Resource Supply

Appendix D1.1 Employees Supply by Job Category (FTE)

Total Employee Network Resource Supply by Job Category (FTE)					
Labour Category (Operational)	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]1
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D1.2 Labour Hire Supply by Job Category (FTE)

Total Labour Hire Network Resource Supply by Job Category (FTE)					
Labour Category (Operational)	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D1.3 Total Employee & Labour Hire Supply by Job Category (FTE)

Total Employee & Labour Hire Network Resource Supply by Job Category (FTE)					
Labour Category (Operational)	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Accounting	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Electro Technologist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Overhead	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Apprentice - Underground	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Area / System Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Asset Access	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Business Support	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cadets	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Commercial Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Communication Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Community Engagement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Compliance Inspector	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contracts Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Control & Protection Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Connection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Customer Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Distribution Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
District Operator	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Earthing & Insulation Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity Supply Officer (ESO)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
EMSO	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Paraprofessional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Environment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estimators	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Supervisor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Field Support Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Functional Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Graduates	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Health & Safety	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
High Voltage Cable Test	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Human Resources	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Developer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
ICT Specialist	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Layout Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LV Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mains Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Operation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metering Technology	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Data Officer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Operations Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Network Planners	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non Electrical Engineering Services	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Policies & Standards, Specifications and Investigations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Program/Portfolio Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Manager	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Protection Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Risk Mitigation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Design	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SCADA Operational	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Security	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Technical Analyst	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tele Control Technicians	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trainers	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Jointer	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Line worker	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Transmission Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Voltage Regulation Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Work Experience	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Works Scheduler	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Workshop Technician	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D2: Network Resource Supply Aging Profile

Appendix D2.1 Aging Profile by Job Family (FTE)

This data relates to employees and excludes labour hire

Age Profile by Job Family (FTE)	U25 - yrs.	25-39 yrs.	40-49 yrs.	50-59 yrs.	60-64 yrs.	65+yrs
Base Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Advanced Field	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Engineering	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Management / Professional	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Development Programs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D3: Network Resource Supply Location

Appendix D3.1 Employee Depot Profile by Year (FTE)

Employee Depot Profile by Year (FTE) Location Analysis	FY15	FY16	FY17	FY18	FY19
Artarmon Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Belmont Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Blackwattle Bay Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Castle Cove Zone Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cessnock Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Charlestown Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chatswood Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chatswood Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cronulla Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dee Why Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Elermore Vale office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gore Hill Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gwawley Bay Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Haberfield Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Head Office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Business Village	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hornsby Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HSBC George St	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Lane Cove Testing Station	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maitland Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Market Street	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Meadowbank Training	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Menai Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Merriwa Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Morisset Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mt Ku-ring-gai Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Muswellbrook Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-Ausgrid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ourimbah Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Oatley Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Olympic Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Potts Hill	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pymble Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pymble Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pyrmont Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regents Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Roden Cutler House	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rutherford Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ryde Zone Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Salt Ash Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sefton Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Silverwater Learning Centre	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Singleton Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Somersby Warehouse	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
St Peters Zone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Thornton Pole Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tuggerah Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ultimo Zone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
West Gosford Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Zetland Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D3.2 Labour Hire Depot Profile by Year (FTE)

Labour Hire Depot Profile by Year (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Artarmon Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chatswood Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Elermore Vale office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Head Office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Business Village	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HSBC George St	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Muswellbrook Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-Ausgrid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Olympic Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pymble Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pyrmont Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regents Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Roden Cutler House	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Silverwater Learning Centre	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Somersby Warehouse	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tuggerah Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Zetland Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Appendix D3.3 Total Depot Profile by Year (Employee and Labour Hire) (FTE)

Total Depot Profile by Year (Employee and Labour Hire) (FTE)					
Location Analysis	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Artarmon Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Belmont Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Blackwattle Bay Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Castle Cove Zone Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cessnock Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Charlestown Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chatswood Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Chatswood Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cronulla Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dee Why Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Elermore Vale office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gore Hill Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gwawley Bay Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Haberfield Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Head Office Building	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Business Village	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Homebush Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hornsby Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HSBC George St	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Lane Cove Testing Station	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Maitland Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Market Street	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Meadowbank Training	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Menai Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Merriwa Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Morisset Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Mt Ku-ring-gai Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Muswellbrook Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-Ausgrid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ourimbah Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Oatley Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Olympic Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Potts Hill	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pymble Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Pymble Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Pyrmont Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regents Park Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Roden Cutler House	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rutherford Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ryde Zone Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Salt Ash Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sefton Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Silverwater Learning Centre	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Singleton Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Somersby Warehouse	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
St Peters Zone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Thornton Pole Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tuggerah Office	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ultimo Zone	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Administration	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Wallsend Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
West Gosford Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Zetland Depot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Supply	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]