

Attachment 6.07

Engineering, Planning & Project Management operating expenditure plan for 2014-19

May 2014



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Executive Summary

We forecast \$83.084 million of opex to provide engineering, planning and project management support to assist in the delivery of efficient and prudent distribution activities over the next regulatory period.

This document provides an overview of our proposed opex to support our distribution network in the 2014-19 period. In total, we propose total opex of \$83.1 million over the period, comprised of the following operational activities:

- Network and asset planning;
- Project development and management; and
- Engineering design, testing and support.

Network & Asset Planning

Network & Asset Planning major activities include;

- Development of Network Policy and Standards
- Assessing equipment ratings and supply quality
- Development of maintenance standards, plans and programs
- Regulatory Interaction & Reporting
- Supporting the operation and control of the network

Expenditure to fund these activities was \$5.2M in 2012/13. These activities are required to ensure sound development and operation of the network and meet regulatory and licence obligations. Recent changes to Ausgrid's licence conditions and design standards will increase the level of activity in this area but it is proposed that resourcing of the majority of these activities will be achieved through efficiencies in existing processes. It is noted that regulatory interaction and reporting activities have increased significantly as a result of changes to the regulatory framework. Much of this interaction and reporting is not required to operate and manage the business and has been identified as costs associated with regulatory compliance.

Program Development & Management

This activity relates to support work related to the development of planning options and analysis which includes the development of planning estimates and profiles. This work is required to undertake robust investment appraisal of investment projects and programs. Expenditure to fund these activities was \$2.8M in 2012/13.

Engineering Design, Testing and Support

This activity is required to manage operational network and performance risks and to ensure the sound development and operation of the network and to meet regulatory and licence obligations with particular focus on:

- Testing of major items of equipment operate to required standards and confirmation of suppliers claimed design standards
- Primary and secondary systems
- Operational Technology

Expenditure to fund these activities was \$4.4M in 2012/13.

The total opex is provided in the table below:

\$M (FY14 real)	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Operating expenditure	15.384	16.218	16.739	17.158	17.585	83.084

The focus of our strategy for the 2014-19 period is to provide sound engineering support to enable the safe, sustainable and efficient development, maintenance and operation of the network.

The proposed opex is 10.9 per cent different to the 2009-14 period. This reflects the continuance of business as usual operations as well as increased activity in the following areas;

- Development of probabilistic planning and risk-based replacement and maintenance planning criteria;
- Increased involvement in investment governance in terms of initiation and justification;
- Increased regulatory interaction and reporting requirements.

2 Outcomes last period

During the 2009-14 period, Ausgrid is expected to spend \$74.982m on Engineering, Planning and Project Management related opex to deliver its objectives.

The purpose of this section is to identify the outcomes of opex in the 2009-14 period and the reasons for variation to forecasts. Examination of previous expenditure can provide critical insights on the level of forecast opex, and the veracity of previous forecasting approaches.

2.1 Circumstances during 2009-14 period

The 2009-14 period was a period of declining demand growth. This has seen the proportion of growth driven expenditure decline from around 45% in 2008/09 to around 18% in 2013/14. The saw the focus of Engineering & Planning shift from dealing with a combination of augmentation and replacement issues to being focused primarily on asset condition and maintenance issues. In addition, the planned repeal of Schedule 1 of the Design Planning Criteria in the current Licence Conditions work is under way to develop probabilistic planning criteria.

More recently the Engineering, Planning & Connections areas have been providing significant support in responding to regulatory information requests as part of the reset. This has involved the enhancement and development of planning systems and models in order to provide detailed expenditure forecasts for the next 5-7 years.

2.2 Opex outcomes during the 2009-14 period

During the period, Ausgrid incurred \$74.982 million of opex relating to Engineering, Planning and Project Management as shown in the below table:

\$M (nominal)	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Operating expenditure	16.103	16.089	16.101	11.937	14.752	74.982
Allowance	13.492	14.383	15.346	16.066	14.533	73.820
Variance to Allowance	2.611	1.705	0.756	-4.129	0.219	1.162

The above expenditure is representative of the following expenditure by functional operation:

\$M (nominal)	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Engineering - Testing	3.303	1.612	1.796	1.148	1.195	9.054
Engineering - Primary & Secondary Systems	3.015	1.586	1.450	0.961	1.002	8.014
Project Management - Project Development	3.229	2.255	2.058	1.115	1.162	9.819
Project Management - Capital Programs & Major Projects	0.915	0.876	1.042	1.563	1.627	6.023
Network & Asset Planning	5.568	5.904	5.837	4.988	5.191	27.532
Engineering - Operational Technology	0.074	3.859	3.919	2.161	4.576	14.546
Total	16.103	16.089	16.101	11.937	14.752	74.982

2.3 Variations to allowance

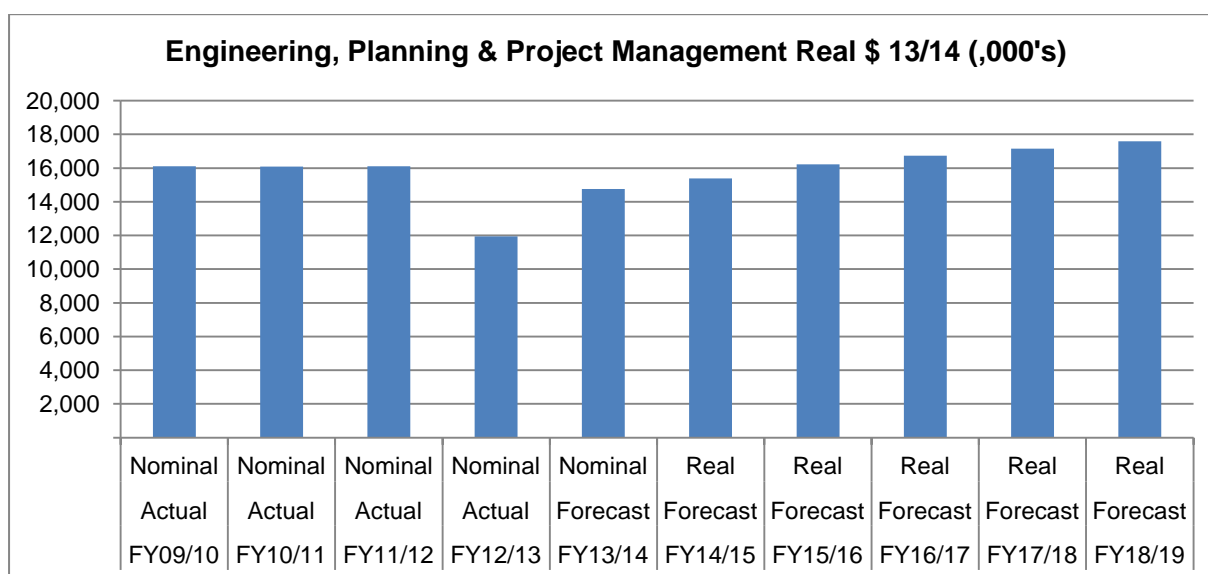
During the 2009-14 period opex for this category is estimated to have overspent the allowance by \$1.162m. The main reasons for this overspend related to higher levels of activity associated with revised planning standards and increased regulatory interaction and support.

Attachment 5.01, "Arup review of outcomes for the 2009-14 period", provides further information on how we have addressed these issues in developing our proposal for the 2014-19 period.

3 2014-19 Engineering, Planning & Project Management

Our focus for the 2014-19 period is the development of enhanced probabilistic and risk-based engineering, planning & investment criteria

The purpose of this section is to identify the key circumstances driving Ausgrid's Engineering, Planning and Connections opex in the 2014-19 period. At a high level, it can be seen that the forecast for the period is above the opex from the 2009-14 period:



The temporary reduction in 2012/13 was a result of the responsibility for certain operational technology functions being transferred to the Information, Communications and Technology division under the restructure. These have now been transferred back to Engineering.

The reason for this trend in costs is that, whilst the proposed level of investment has declined from the previous period, the engineering and planning activity has increased as a result of the need to develop;

- Probabilistic planning & design standards as a result of the repeal of the current Schedule 1 Design Planning criteria;
- Enhanced risk-based asset condition assessment criteria;
- Enhanced investment prioritisation and program management.

The focus of our opex strategy is to maintain compliance, reliability, and continue to support network activities. At the same time we have sought to minimise price pressures to the full extent possible by investigating avenues of efficiency either in scope or delivery of the forecast activity or investment in capital. These issues are discussed below.

It is proposed that this increased level of activity will be achieved with improved utilisation of existing resources.

3.1 Key circumstances during 2014-19 period

Key circumstances that are anticipated to impact on the next regulatory period include the;

- Ausgrid's desire to achieve no real increase in customer prices whilst continuously improving safety performance and maintaining the reliability & sustainability of the network;
- removal of design planning criteria from Licence Conditions;
- increased uncertainty and volatility of demand;
- increased regulatory reporting requirements;
- application of the new Service Target Performance Incentive Mechanism (STPIS).

3.2 Key operational drivers and variables

The key operational drivers as a result of these circumstances which have an impact on the opex requirement for the 2014-19 period drive the need to develop:

- Significantly improved probabilistic and risk-based planning & design policies & standards;
- More sophisticated demand forecasting;
- Broader application of demand management techniques;
- Significantly increased regulatory reporting requirements.

3.3 Operational strategies

As a result of these circumstances and drivers the following initiatives have been identified:

- The development of enhanced probabilistic and risk-based planning criteria;
- Further development of demand forecasting techniques;
- Broader application of demand management;
- Improved systems and processes to support regulatory and performance reporting requirements.

3.4 Relationship with capex program

Whilst engineering, planning and connection activities are closely linked to the capital program, a significant level of activity is required independent of changes in levels capital investment. The benefits of these operational activities comprise design & scope efficiencies for capital projects and programs of work and the maintenance program.

3.5 Productivity savings

The proposed operating program for Engineering, Planning & Connections is based on undertaking all additional activities identified using existing resourcing resources.

The forecast numbers are prior to the allocation of any productivity and efficiency savings associated with Network Reform Programs and management initiatives to offset costs associated with the cessation of the TSA. These initiatives are discussed in greater detail in the Opex Chapter. Any productivity savings associated with Engineering, Planning & Project Management will be factored into operations once these initiatives are developed in a greater level of detail.

4 Forecast method

We have relied on a base year approach in forecasting opex for the 2014-19 period.

The purpose of this section is to provide an overview of the process we have used to derive the total opex forecast for Engineering, Planning and Connections. In doing so, we have taken into account the business as usual operations carried forward from the end of the 2009-14 period and the circumstances in the 2014-19 period as described in section 3.

4.1 General approach

Ausgrid has developed a separate plan for the activities contained in this section. The plans have largely relied on high level models rather than detailed bottom up forecasting. Our forecasting methods across the plans are based on robust assumptions. Synergies with other plans have been considered and are accounted for at a high level. The impact of material step changes has also been incorporated in the forecast.

A summary of our general method is set out below, with further information provided in supporting information that sets out the models in more detail.

Model approach

Ausgrid's BAU forecast has been based on a base year approach. This approach has taken the projected results for 2013/14 and applied the relevant activity drivers and cost escalation factors for the 2014-19 period.

The detailed forecast model calculations can be found in the opex forecast model.

Key assumptions

Our forecast methods are based on consistent and robust assumptions of the future. The key assumptions include:

- Key activity drivers
 - Development of improved probabilistic and risk-based engineering, planning and investment criteria;
 - Development of more sophisticated demand forecasting techniques;
 - Broader application of demand management techniques;
 - Significantly increased regulatory reporting requirements.
- Cost escalation factors

The major cost in the Engineering and Planning areas is technically qualified labour. Costs have been escalated on the basis of independent forecasts of labour costs for the sector.

5 Forecast outcomes

We have forecast \$83.084 million of opex for Engineering, Planning and Project Management.

The purpose of this section is to provide a summary of the total opex proposed for demand related distribution opex.

5.1 Summary of opex

In total, the opex for engineering, planning and project management related expenditure is \$83.084 million:

\$M (FY14 real)	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Labour	11.625	11.807	12.051	12.298	12.549	60.330
Materials	0.614	0.614	0.614	0.614	0.614	3.070
Contracted Services	2.107	2.422	2.436	2.578	2.730	12.274
Labour Hire	1.188	1.201	1.221	1.242	1.265	6.116
Other	-0.151	174.5	417.6	425.2	427.4	1.294
Total	15.384	16.218	16.739	17.158	17.586	83.084

This is split between Transmission and Distribution opex as follows:

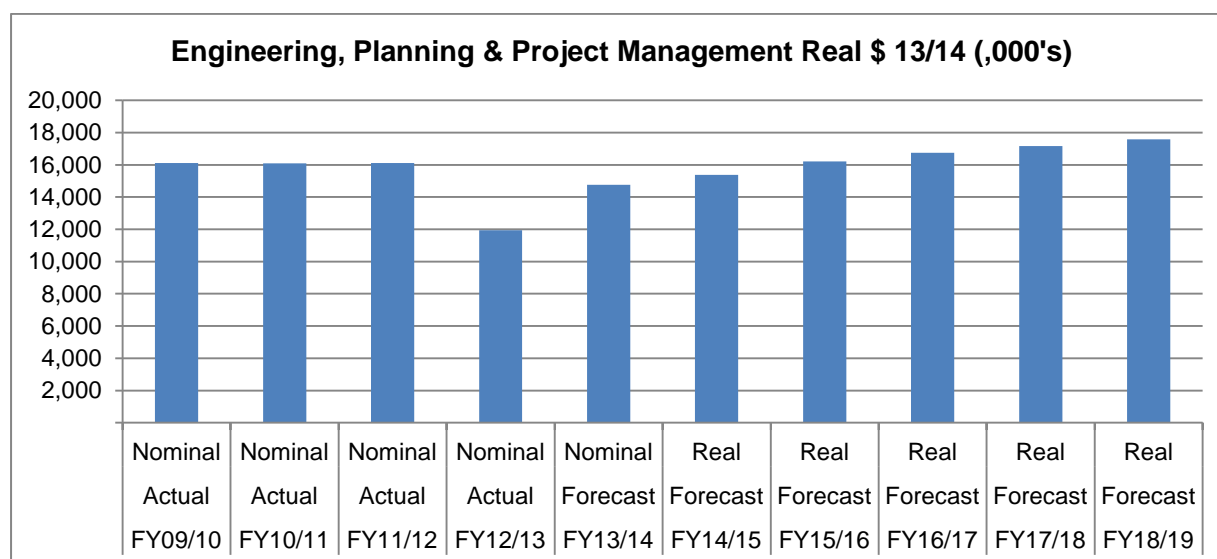
\$M (FY14 real)	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Transmission	-	-	-	-	-	-
Distribution	15.384	16.218	16.739	17.158	17.586	83.084
Total	15.384	16.218	16.739	17.158	17.586	83.084

The above expenditure is representative of the following expenditure by functional operation:

\$'000 (FY14 real)	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Engineering - Testing	1,208.4	1,226.2	1,250.5	1,275.3	1,300.5	6,260.9
Engineering - Primary & Secondary Systems	1,016.2	1,035.9	1,063.3	1,091.5	1,120.4	5,327.3
Project Management - Project Development	1,176.0	1,195.6	1,223.1	1,251.4	1,280.4	6,126.4
Project Management - Capital Programs & Major Projects	1,640.6	1,661.9	1,693.3	1,726.0	1,759.9	8,481.7
Network & Asset Planning	5,251.6	5,328.9	5,433.8	5,540.5	5,648.9	27,203.7
Engineering - Operational Technology	5,091.1	5,769.7	6,075.0	6,272.8	6,475.4	29,684.0
Total	15,383.9	16,218.2	16,739.0	17,157.6	17,585.5	83,084.1

Comparison to previous expenditure

The graph and table below shows that Ausgrid's proposed engineering, planning and project management opex is 10.9 per cent higher than 2009-14.



This change in opex to the 2009-14 period has been influenced by the following factors taken into account in the 2014-19 forecast:

- Higher levels of activity associated with revised planning standards;
- Increased role in investment governance;
- Increased requirements to support regulatory interaction and support.