UNITED ENERGY

Connections – Standard Control Services

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Approval and Amendment Record

VERSION	AMENDMENT OVERVIEW
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1. Purpose of this document

This document explains and justifies at a high level our Connections capital expenditure for our Standard Control Services only for the next period (1 January 2016 to 31 December 2020). This document references other supporting documents for further detail.

Unless otherwise stated, capital expenditure is presented in real 2015 dollars and is expressed in total costs (i.e. direct costs plus escalations and overheads).

2. Structure of this document

This document is structured as follows:

- Section 3 details our Connections capital expenditure profile for the previous, current and forthcoming periods;
- Section 4 explains the conceptual nature of Connections capital expenditure and why it is necessary;
- Section 5 explains and justifies our actual Connections capital expenditure against the Australian Energy Regulator's (AER) allowance in the current period as well as the outcomes that it has delivered;
- Section 6 explains and justifies our forecasting methodology for Connections capital expenditure for the next period;
- Section 7 details our Connections capital expenditure forecast for the next period;
- Section 8 explains how we consider that our Connections capital expenditure forecast meets the capital expenditure objectives and criteria in clause 6.5.7 of the Rules, having regard for the capital expenditure factors; and
- Section 9 details the supporting documentation relevant to our Connections capital expenditure forecast.

3. Expenditure Profile

This section details the profile of our Connections capital expenditure and customer contributions for the previous, current and forthcoming periods.

3.1. Connections Capital Expenditure

Our Connections capital expenditure comprises capital expenditure that we directly incur ourselves as well as our customer contributions. We refer to this as our "Gross" Connections capital expenditure.

Our Connections capital expenditure for the previous, current and forthcoming periods is presented in Tables 1, 2 and 3 respectively.

Table 1 - Previous period expenditure – Standard Control Services ($M, Real 2015)

	2006	2007	2008	2009	2010	TOTAL
Distribution Determination	29.2	29.2	27.5	26.0	28.7	140.6
Actual	54.2	40.2	42.7	33.4	39.5	210.0
Variance (Actual – Determination)	25.0	11.0	15.2	7.4	10.8	69.4

Table 2 - Current period expenditure – Standard Control Services ($M, Real 2015)

	2011	2012	2013	2014	2015	TOTAL
Distribution Determination	60.0	58.3	56.3	55.3	53.4	283.3
Actual / Estimated	49.3	51.6	53.8	47.8	46.7	249.2
Variance (Actual – Determination)	(10.7)	(6.7)	(2.5)	(7.5)	(6.7)	(34.1)

Table 3 - Forecast period expenditure – Standard Control Services ($M, Real 2015)

	2016	2017	2018	2019	2020	TOTAL
Regulatory Proposal	48.2	49.3	50.6	50.1	50.9	249.1

Table 1 shows that we overspent the AER's determination by about $70 million in the previous period and Table 2 shows that we are expecting to underspend the AER's determination by about $34 million in the current period. Table 3 shows that we are forecasting our Connections capital expenditure for the forthcoming period to be around the same as what we spent for the current period.

3.2. Customer Contributions

Customer connection projects that are funded by our customers are referred to as customer contributions. There are two types of customer contributions:

- Cash contributions – these are payments that we receive from customers where the incremental cost of the connection is greater than the incremental revenue – the basis for calculating these cash customer contributions is discussed in section 6 below; and
- Gifted assets – these are assets that are built by another party and gifted to us to operate and maintain.

Our customer contributions for the previous, current and forthcoming periods are presented below in Tables 4, 5 and 6 respectively.

Table 4 - Previous period expenditure – Standard Control Services ($M, Real 2015)

	2006	2007	2008	2009	2010	TOTAL
Distribution Determination	(5.6)	(5.5)	(5.2)	(5.1)	(5.5)	(26.8)
Actual	(15.4)	(21.5)	(15.6)	(14.7)	(15.6)	(82.8)
Variance (Actual – Determination)	(9.8)	(16.0)	(10.4)	(9.7)	(10.2)	(56.0)

Table 5 - Current period expenditure – Standard Control Services ($M, Real 2015)

	2011	2012	2013	2014	2015	TOTAL
Distribution Determination	(31.4)	(30.7)	(30.0)	(30.4)	(29.5)	(152.0)
Actual / Estimated	(16.1)	(19.3)	(15.5)	(8.4)	(12.3)	(71.7)
Variance (Actual – Determination)	15.3	11.4	14.5	22.0	17.2	80.3

Table 6 - Forecast period expenditure – Standard Control Services ($M, Real 2015)

	2016	2017	2018	2019	2020	TOTAL
Regulatory Proposal	17.7	18.1	18.3	18.7	18.5	91.4

Table 4 shows that our customer contributions were about $56 million higher in the previous period than the AER's determination and Table 5 shows that we are expecting them to be about $80 million lower than the AER's determination in the current period. Table 6 shows that we are forecasting our customer contributions over the forthcoming period to be significantly lower than in either the previous or current periods.

3.3. Implications

In the previous period, we overspent our Gross Connections capital expenditure by $70 million. Of this amount, $56 million was funded through additional customer contributions and $14 million was funded by all customers.

In the current period, we are expecting to underspend the AER's allowance for Gross Connections capital expenditure by $34 million and we under-recovered our Customer Contributions against the AER's forecast by $80 million. This means that we overspent our Net Connections capital expenditure by $46 million. As a result, we undertook more work than was forecast and we were not funded for this by developers (and other new customers). There was therefore a "wealth transfer" from all existing customers to developers (and other new customers) during the current period. As we discuss further below, this was a direct result of the application of the Essential Services Commission of Victoria's (ESCV) Guideline 14.

4. Nature of expenditure

This section explains the conceptual nature of our Connections capital expenditure and why it is necessary.

4.1. Our obligations to connect customers

We have an obligation that is set out in our Distribution Licence to offer to connect customers. Our Distribution Licence obliges us to offer to:

- Provide connection services to a customer's electrical installation and to supply electricity[1];
- Provide connection services to embedded generators[2]; and
- Underground or otherwise relocate or modify our distribution assets[3].

The ESCV's Electricity Distribution Code details the conditions that must be satisfied for us to make a connection[4].

4.2. Contestability of connection and augmentation works

Clause 11.7 of our Distribution Licence, and clause 4 of the ESCV's Guideline 14, provide for the contestability of certain connection and augmentation works. In particular, clause 4.2.1 of Guideline 14 provides that:

> *If a distributor proposes to augment its distribution system in connection with an offer to provide services under clause 5, 6, 7, 8 or 9 of its distribution licence then the distributor must before making the offer, call for tenders to perform the construction works from at least two other persons who compete in performing works of that kind (or who are capable of so competing).*

This means that other parties than us can provide certain connection and augmentation works if they are the successful tenderer.

We have assumed in forecasting our Connections capital expenditure and customer contributions for the next period that historical levels of tendered work will continue to be undertaken by other parties.

4.3. Connections capital expenditure, including customer contributions

All Connections are initiated, and carried out, at the request of customers. The timing and level of Connections is therefore largely outside of our control.

Connections projects involve establishing new connections or modifying or extending our existing distribution system to accommodate new customers' demand. They are undertaken in accordance with our "UE Customer Connection Guide"[5], having regard for our regulatory obligations to connect customers.

Connections are strongly correlated with the level of economic activity and, in particular, building and infrastructure developments. Most Connections expenditure is therefore based on econometric drivers.

We initiate numerous Connections projects each year. The smallest projects cost a few thousand dollars, whereas the largest projects may cost several million dollars. The lifecycle of our connection projects is typically less than one year but some may last for two or more years.

Customer connection projects can be undertaken by:

- One of our contracted service providers, Tenix or ZNX, or a sub-contractor acting on their behalf – these works are funded either by us or by the customer wanting the connection who pays a customer contribution;
- A successful tenderer for contestable connection and augmentation works – these works are funded by the customer wanting the connection. The assets are gifted to us and are treated as customer contributions; or

[1] Clause 6 of Distribution Licence

[2] Clause 7 of Distribution Licence

[3] Clause 8 of Distribution Licence

[4] Clause 2 of Electricity Distribution Code

[5] http://uemg.com.au/customers/your-electricity/electricity-connections.aspx

- A real estate developer or another party, who builds the necessary assets and gifts them to us – these gifted assets are treated as customer contributions.

In this way, customer connection projects can be:

- Funded by us or by our customers; or
- Undertaken by us (through our service providers) or by third parties.

4.4. Mapping UE's connection activities to the AER's service classification

We categorise our Connections capital expenditure into the following two letter codes:

- Business supply projects (CB);
- Urban multi-occupancy supply projects (CD);
- Urban residential supply projects (CH);
- Public lighting (CL);
- Contestable metering new services (CM);
- T5 public lighting (CN);
- Recoverable works (CR); and
- Rural supply projects (CS).

We further sub-categorise our Connections capital expenditure under each of these eight high-level categories (designated by three-letter sub-category codes).

We mapped our Connections project categories to the AER's services classification to ensure that the expenditure is appropriately allocated for the regulatory purposes.

In our Regulatory Proposal we accept the service classification that the AER has included in its final Framework and Approach paper for the forthcoming period. The new AER's classification makes certain changes to the classification that applies in the current period.

Appendix A shows how we split our Connections capital expenditure for the next period for each sub-category between:

- Standard Control Services;
- Alternative Control Services;
- Negotiated Distribution Services; and
- Unclassified services.

As noted above, this overview document only details our Connections capital expenditure for our Standard Control Services.

4.5. Application of the ESCV's and the AER's Connection Charge Guidelines

Currently, we apply the connection charging provisions that are set out in the ESCV's Guidelines 14 and 15 for Connections, including to determine the amount of our customer contributions. Guideline 14 applies to "customers" whereas Guideline 15 applies to "embedded generators".

These Guidelines apply in Victoria because the State has not yet adopted the National Energy Customer Framework (NECF), which would involve, amongst other things, the repeal of Guideline 14 and its replacement with the AER's "connection guideline", which is the "Connection charge guidelines for electricity retail customers" (AER's Connection Charges Guidelines) that were released in June 2012 under clause 5A.E.3(a) of the National Electricity Rules.

We understand that the new Victorian Government does not currently support the move to the NECF because they consider it would not offer existing consumer protections although there may be some harmonisation or review of Victorian instruments.

We support the repeal of Guideline 14 and its replacement with the AER's Connection Charges Guidelines for the following reasons.

Guideline 14 currently requires that we include an allowance for incremental revenue in calculating a capital contribution for a connection offer. In estimating the incremental revenue, the Guideline requires that we assume that the X factor in the final year of the current Distribution Determination will apply over a 15 to 30-year study period (depending on the customer type). Accordingly, in the current regulatory period, we have needed to apply the AER's approved X factor for 2015 of -8.1 per cent per annum to our calculations of incremental revenue. This means that after 2015 we have effectively assumed that distribution tariffs will increase in real terms at a rate of 8.1 per cent per annum for more than 25 years in the case of domestic customers. In our view, this is unrealistic.

We estimate that we will receive about $80 million less in customer contributions over the current regulatory period than we forecast as a result of applying Guideline 14. The higher (net) Connections capex that we have directly incurred will be added to the regulatory asset base and recovered by all customers.

The result of lower customer contributions has been that a greater proportion of the costs of Connections has been borne by all customers rather than by the individual customers requesting the service. In effect, this has resulted in a "wealth transfer" from all of our existing customers to developers (and other new customers) in the current period.

Put differently, the higher (and negative) X factor has artificially reduced capital contributions and has increased the regulatory asset base, putting upward pressure on future tariffs.

We detailed this position in our response to the AER's Preliminary Framework and Approach paper.

We have written to the Victorian Government seeking to amend Guideline 14, as we see it is producing anomalous and unintended outcomes. This is because the purpose of the X factors, and the AER's approach to setting it under clause 6.5.9 of the National Electricity Rules, are now different to when Guideline 14 was enacted.

Accordingly, we have prepared our cash contribution forecasts to be consistent with both the ESCV's Guideline 14 and the AER's national Customer Contributions Guidelines. This is discussed in section 6.4 below.

4.6. Regulatory treatment of Connections capital expenditure and customer contributions

Our forecast customer contributions are deducted from our (Gross) Connections capital expenditure to determine our Net Connections capital expenditure. In this way, our customer contributions are excluded from our Regulatory Asset Base for the purposes of determining our return on, and of, capital that is used to determine its Annual Revenue Requirements for Standard Control Services.

We therefore recover our customer contributions in addition to our Annual Revenue Requirements.

Because of our classification of services it is necessary to prepare separate forecasts of our:

- (Gross) Connections capital expenditure; and
- Customer contributions;

for each of our:

- Standard Control Services;
- Alternative Control Services – Metering; and
- Negotiated Distribution Services – Public Lighting.

We again emphasise that the forecast Connections capital expenditure and customer contributions in this document relate only to Standard Control Services.

5. Current regulatory period expenditure

This section explains and justifies our actual Customer Connections capital expenditure against the AER's allowance in the current period as well as the outcomes that it has delivered.

5.1. Our Regulatory Proposal and the AER's distribution determination

We prepared our Connections capital expenditure forecasts for the current period using a model based on:

- Actual expenditure, using actual data from recently completed projects;
- Existing projects, where the customer has made an application to connect and has either accepted our offer or their acceptance is pending;
- Horizon projects, where only limited details are known about the project at the time of deriving our forecast; and
- Future projects, where the projects have not yet been identified, but are forecast using an econometric model.

The AER accepted our Connections capital expenditure forecasts as well as our customer contribution forecasts (which are a sub-set of the capital expenditure forecasts).

Table 7 provides a breakdown of our Revised Regulatory Proposal and the AER's Distribution Determination. The differences between the two sets of numbers reflect the AER's decision on margins, overheads and real cost escalators (i.e. not the underlying forecasts).

Table 7 – Revised Regulatory Proposal and AER's Distribution Determination ($M, Real 2015)

		2011	2012	2013	2014	2015	TOTAL
Revised Regulatory Proposal	Connections capital expenditure	60.6	58.8	56.9	55.6	53.7	285.6
	Customer contributions	(31.4)	(30.7)	(30.0)	(30.4)	(29.5)	(152.0)
AER Distribution Determination	Connections capital expenditure	60.0	58.3	56.3	55.3	53.4	283.3
	Customer contributions	(31.4)	(30.7)	(30.0)	(30.4)	(29.5)	(152.0)

Table 7 shows that the AER allowed Connections capital expenditure of $283.3 million for the current period, of which $152.0 million related to customer contributions.

5.2. Actual expenditure versus AER allowance

Table 8 details what has actually occurred for the first three years of the current period and what we estimate will occur for the final two years of the period. The table compares this to what the AER allowed in its Distribution Determination. We estimate that over the five year period:

- Our Connections capital expenditure will be about $34 million lower than the AER's allowance; and
- Our customer contributions will be about $80 million lower than the AER's allowance.

Table 8 – Actual Connections capital expenditure and variance against AER's Distribution Determination

		2011 (Actual)	2012 (Actual)	2013 (Actual)	2014 (Actual)	2015 (Est.)	TOTAL (Est.)
Actual Connections capital expenditure	Gross Connections capital expenditure	49.3	51.6	53.8	47.8	46.7	249.2
	Customer contributions	(16.1)	(19.3)	(15.5)	(8.4)	(12.3)	(71.7)
Variance against AER Distribution Determination	Connections capital expenditure	(10.7)	(6.7)	(2.5)	(7.5)	(6.7)	(34.1)
	Customer contributions	15.3	11.4	14.5	22.0	17.2	80.3

5.2.1. Lower customer contributions

Our lower than forecast customer contributions reflect the continued application of the ESCV's Guideline 14.

Guideline 14 requires that we include an allowance for incremental revenue in calculating a capital contribution for a connection offer. In estimating the incremental revenue, the Guideline requires that we assume that the X factor in the final year of the current Distribution Determination will apply over a 15 to 30-year study period (depending on the customer type). Accordingly, we have needed to apply the AER's approved X factor for 2015 of -8.1 per cent per annum to our calculations of incremental revenue during this period. This means that after 2015 we assume that distribution tariffs will increase in real terms at a rate of 8.1 per cent per annum for more than 25 years in the case of domestic customers. In our view, this is unrealistic. We have written to the Victorian Government seeking to amend Guideline 14, as we see it is producing unintended outcomes. This is because the purpose of the X factors, and the AER's approach to setting it under clause 6.5.9 of the National Electricity Rule, are now different to when Guideline 14 was enacted.

In comparison, the forecast customer contributions that we included in our Regulatory Proposal for the current period were based on an assumed X factor for 2015 of -4 per cent. The higher (and negative) the X-factor, the lower the up-front capital contribution payable by an individual customer requesting the connection.

Applying an X factor of -8.1 per cent has meant that many developers (and other new customers) have either not paid a customer contribution at all, or have paid a considerably lower amount than they would have if the X factor used in our calculation had been -4 per cent, as we had expected when we prepared our forecasts.

As a result, we estimate that we will receive about $80 million less in customer contributions over the current period than we had forecast. The higher (net) Connections capital expenditure that we have directly incurred will be added to the regulatory asset base and recovered by all customers.

The result of lower customer contributions has been that a greater proportion of the costs of Connections has been borne by all customers rather than by the individual customers requesting the service. In effect, this has resulted in a "wealth transfer" from all of our existing customers to developers (and other new customers) in the current period.

Put differently, the higher (and negative) X factor has artificially reduced capital contributions and has increased the regulatory asset base, putting upward pressure on future tariffs.

5.2.2. Number of connections

Table 9 details the forecast connections numbers that underpinned our Connections capital expenditure forecast in Table 7 above (as reported in our 2011-15 Regulatory Information Notice) and our actual connections numbers (as reported in our Annual Regulatory Information Notices).

Table 9 – Connections numbers

	2011	2012	2013	2014	2015	Total
Forecast (as per 2011-2015 Regulatory Information Notice)	11,256	10,451	9,721	10,376	11,756	53,560
Actual (as per Annual Regulatory Information Notices)	11,993	12,533	10,741	11,493	n.a.	n.a.
Variance between Actual and Forecast	737	2,082	1,020	1,117	n.a.	n.a.

When taken together, Table 8 and Table 9 show that:

- We have connected more customers than we forecast;
- We have undertaken this higher number of connections at a lower total cost than we forecast;
- We have funded more of the costs of Connections directly, as a result of customer contributions being lower than we forecast; and
- We expect to significantly underspend our Connections capital expenditure over the whole period.

This all indicates that our actual (and estimated) Connections capital expenditure in the current period are extremely efficient.

5.3. Trend analysis

Table 10 shows that over Connections capital expenditure have been fairly stable over the previous and current periods.

After a significant decline between 2007 and 2010, Connections capital expenditure has returned to the levels experienced in 2006 and we estimate that it will increase slightly in 2015.

This long-term ongoing growth in Connections provides a sound historical basis for forecasting our Connections capital expenditure in the forthcoming period.

Table 10 – Connections Capital Expenditure 2006 to 2015

	2006 (Actual)	2007 (Actual)	2008 (Actual)	2009 (Actual)	2010 (Actual)	2011 (Actual)	2012 (Actual)	2013 (Actual)	2014 (Actual)	2015 (Est.)
Connections capital expenditure ($M, Real 2015)	54.2	40.2	42.7	33.4	39.5	49.3	51.6	53.8	47.8	46.7
Customer Contributions ($M, Real 2015)	(15.4)	(21.5)	(15.6)	(14.7)	(15.6)	(16.1)	(19.3)	(15.5)	(8.4)	(12.3)

6. Expenditure forecasting method for forthcoming period

This section explains and justifies our method of forecasting Connections capital expenditure for the next period.

6.1. How we categorise our expenditure forecasts

As detailed in section 4.4, we assign Activity Codes to each Connections capital expenditure project:

- Our two-letter Activity Codes reflect the type of the connection service; and
- Our three-letter Activity Codes reflect the technical requirement of the activities.

We use both of these Activity Codes in our forecasting however, as discussed below, we ultimately aggregate our three-letter Activity Code forecasts to the two-letter Activity Code level.

We forecast our New Customer capital expenditure projects in four steps. We:

1. Forecast gross Connections capital expenditure and volumes;
2. Apply contracted unit rates, forecast overheads and real cost escalations;
3. Forecast customer contribution revenues; and
4. Determine the split of expenditure and customer contributions by service classification.

We discuss each of these steps in turn.

6.2. Step 1 – Forecast gross Connections capex and volumes

We use different methods to forecast our Connections capital expenditure projects, depending on whether they are "non-unitised" or "unitised" projects:

- Non-unitised projects are individually costed, albeit that we use average actual unit rates for each three-letter code to forecast our expenditure for the next period; and
- Unitised projects are costed based on standardised unit rates that we have agreed with our contracted service providers, Tenix and ZNX. Slightly different rates can apply to the same projects in the separate areas that Tenix and ZNX service. In this step 1, we only forecast volumes for unitised work and we apply our unit rates in step 2.

We treat projects with the three-letter Activity Codes CDA, CMU, CMZ, CNJ, CNM and CNW as unitised projects. We treat projects with all other three-letter Activity Codes as non-unitised projects.

In this step 1, we forecast:

- Our gross capital expenditure for non-unitised Connections projects; and
- Our volumes of unitised Connections capital expenditure projects.

We prepare these forecasts using separate "CIC models", which we have provided to the AER with this Overview Document in MS-Excel spreadsheet format. We have also provided to the AER a Guideline[6] that explains how the CIC models have been prepared and how they should be used.

6.2.1. Forecasting gross capital expenditure for non-unitised Connections projects

Our CIC model includes the following components, which we use to forecast our gross Connections capital expenditure for our non-unitised projects:

a) Unit rates – we determine our unit rates by:

- Sourcing from our SAP system our detailed monthly expenditure for the last three financial years for our existing projects;

[6] UE GU 2202 CIC Forecasting Guidelines

- Identifying by Activity Code the existing projects in the latest year; and
- Determining the average cost per project by three-letter Activity Code for the existing projects in the latest year. This is calculated as the sum of the total costs of the existing projects in the latest year (over the last three years) divided by the count of projects in that year.

In this way, we determine the average cost per project by three-letter Activity Code.

b) Volumes – we determine volumes by Activity Code as the count of projects initiated each year. We take the count of projects in the latest year for each Activity Code and apply the growth indices discussed below to forecast the number of projects for each Activity Code over the next period;

c) Growth indices – to forecast the change in the volumes each year, we calculate the growth indices for each Activity Code based on indices that are prepared annually by the Australian Construction Industry Forum (ACIF). The ACIF Melbourne forecast provides an economic/industry growth forecast at a more granular level and at wider areas than the UE supply area, to include the influence of activities in the surrounding areas that will impact UE CIC expenditure in the future. These indices have been checked against our historical works and have a strong correlation to actual works for their specific categories;

d) Expenditure profile – we determine a standard monthly expenditure profile of our projects. This enables us to allocate expenditure for our projects from their initiation date through to their completion. We use historical project data to derive the percentage monthly expenditure profile for each Activity Code;

e) Status of existing projects – we determine the status of all of our existing projects within the expenditure profile. This ensures that our forecasts take appropriate account of what share of each project's cost has been spent and what remains unspent; and

f) Initiation profile – we determine the initiation profile of our project expenditure based on the historical timing of the initiation of our projects. The initiation profile is derived based on historical projects' data. The initiation profile is used together with the expenditure profile to project the life-cycle of the project.

We apply different combinations of the above components to forecast existing and future non-unitised projects gross Customer Connections capital expenditure:

a) Existing non-unitised projects gross forecast – an existing project is one where the customer has accepted our connection offer, has paid the invoice for works to be completed and where works have started, but not yet been completed, to connect the customer.

We forecast our Connections capital expenditure for existing projects by Activity Code by multiplying the following components together:

- Unit rates;
- Expenditure profile; and
- The status of the existing projects in the expenditure profile.

By applying these three factors together, we determine the forecast expenditure for the existing projects for the remainder of the current year and the next two years.

These forecasts are determined by Activity Code for each project category that is forecast on a non-unitised basis.

a) Future non-unitised projects gross forecast – a future project is one where no works have yet started, regardless of whether or not we have provided a connection offer to the prospective customer and it has paid the invoice for works to be completed.

We forecast our Connections capital expenditure for future projects by Activity Code by multiplying the components together:

- Unit rates;
- 2014 volumes;
- ACIF growth indices;
- Spend profile; and
- Initiation profile.

Our CIC model calculates these forecasts over a 10-year period, although we only include the forecasts to 2020 in our Regulatory Proposal.

Again, these forecasts are determined by three-letters Activity Code for each category of project that is forecast on a non-unitised basis.

We add together our existing and future non-unitised Connections capital expenditure forecast to give our total gross non-unitised Connections capital expenditure forecast. Importantly, this forecast:

- Includes (but does not distinguish between) those projects that are:
  - Directly funded by us; and
  - Funded by our customers through customer contributions, either as gifted assets or cash contributions.
- Includes overheads at historical levels; and
- Does not include real cost escalators.

6.2.2. Forecasting unitised project volumes

There is a limited number of types of projects that we forecast using a "unitised" approach – these are Activity Codes CDA, CMU, CMZ, CNJ, CNM and CNW.

Unitised projects have lives of up to 12 months whereas non-unitised projects have lives that can extend to up to three years. We have a relatively large number of small projects, whereas there are relatively few, bigger non-unitised projects. As a result, the forecasting method for unitised projects varies from that for non-unitised projects - in particular, we do not forecast existing unitised projects for the next period.

Our approach in Step 1 simply involves forecasting the volumes of unitised projects. We then apply the unit rate for our unitised projects to this volume forecast in Step 2.

We use another CIC model to forecast the volumes of our unitised projects. The unitised CIC model involves multiplying:

a) Volumes – we determine our volumes by Activity Code for unitised projects on the same basis as for non-unitised projects, based on our historical volumes; and

b) Growth indices – we determine our growth indices by Activity Code for unitised projects on the same basis as for non-unitised projects using ACIF indices.

We multiply these two components together for each Activity Code to forecast our unitised project volumes.

6.3. Step 2 – Apply contracted unit rates, forecast overheads and real cost escalations

We take different actions in this step 2 for our non-unitised and unitised projects to build on the outcomes of step 1.

For our non-unitised projects, we:

- Take the gross Connections capital expenditure forecast from step 1 and update the overheads for the difference between UE's historical overheads and its forecast overheads for the next period; and
- Then apply real labour and materials cost escalations to the adjusted non-unitised gross Connections capital expenditure forecast.

For our non-unitised projects, we:

- Take the forecast volumes of our unitised projects and apply the standardised unit rates that we have contractually agreed with our Service Providers (ZNX and Tenix); and
- Then apply real labour and materials cost escalations, in the same way that we do for our non-unitised projects.

We undertake this step in our "Customer contribution forecast model", which we have also provided to the AER with our Regulatory Proposal.

At the completion of this step 2 we have total gross non-unitised and unitised Connections capital expenditure forecasts by Activity Code.

6.4. Step 3 – Forecast Customer contributions

In this step 3 we forecast our customer contributions by Activity Code. We deduct our forecast customer contributions from our gross Connections capital expenditure forecasts determined in step 2 to determine our net Connections capital expenditure forecasts by Activity Code.

Our customer contributions comprise cash contributions and gifted assets.

We have forecast our cash contributions using our Statement of Works (SoW) model that prices the upfront cash contributions required from customers. We have prepared this forecast to be consistent with both:

- The ESCV's Guideline 14; and
- The AER's national Customer Contributions Guidelines.

Our approach involves:

- Backcasting the amount that customers would have paid on actual projects in the last regulatory period based on an SoW model updated for:
  - Marginal cost of reinforcement (MCR) to reflect current actual costs;
  - An X factor of zero; and
  - Opex so that it is excluded from both incremental revenue and incremental cost.
- Using these backcast cash contribution values to determine the historical average percentage of cash contributions that would have resulted from every dollar of Connections capital expenditure at a two-letter Activity Code;
- Applying these percentages to the Connections capital expenditure to determine the cash contribution at a two-letter Activity Code;
- Determining the profile for the timing of the recognition of the cash contributions revenue based on:
  - Charging customers the cash contribution up-front when the offer is accepted;
  - Holding the cash contribution in trust during the course of the project;
  - Recognising the revenue when the project is completed.

  In this way we forecast when to recognise our cash contributions as revenue based on the historical timing of projects.

We forecast our customer contributions through gifted assets based on:

- The historic trend in our gifted assets in recent years; and
- Internal knowledge and understanding of potential projects that we expect will occur in coming years.

The sum of the annual cash contributions and gifted assets at the two digit budget level gives the annual customer contributions. We directly fund the remainder of our Connections capital expenditure.

We undertake this step in capital contribution forecasting model, which we have provided to the AER with our Regulatory Proposal.

6.5. Step 4 – Determine split by service classification

We determine the split of our forecast (gross) Connections capital expenditure, and of our customer contributions, based on the attribution of our Activity Codes to our service categories as set out in Appendix A. This allows us to determine what Connections capital expenditure relates to each of:

- Standard Control Services;
- Alternative Control Services – Metering; and

- Negotiated Distribution Services – Public Lighting.

6.6. Stakeholder / consumer engagement

As part of our IT expenditure, we are proposing to implement a number of initiatives to improve the customer experience when connecting to our distribution system. This includes implementing a New Connections customer portal, which will enable customers seeking new connections to submit and track their new connections applications on-line. It is anticipated that this portal will streamline the customer new connections process, reduce customer effort and lead to operational efficiencies for both us and our customers. We have consulted with customers on these initiatives and they have been favourably received.

6.7. Justification of expenditure forecasting method

We consider that our proposed expenditure forecasting method is the best available method of forecasting our Connections capital expenditure because it:

- Is based on trend analysis and benchmarking, which is consistent with the AER's proposed approach to assessing Connections capital expenditure, as set out in the Expenditure Forecast Assessment Guideline;
- Is consistent with the approach that we applied in our Regulatory Proposal for the current period to forecast our Connections capital expenditure, which the AER accepted;
- Produces forecasts that are in line with our actual (and estimated) expenditure for the current period. We estimate that our average annual Connections capital expenditure for the current period will be $49.8 million and forecast average annual Connections capital expenditure for the forthcoming period of $49.8 million; and
- Forecasts customer contributions consistent with both the AER's Connections Guidelines and the ESCV's existing Guideline 14.

7. Expenditure forecasts

This section details our forecast Connections capital expenditure for the forthcoming period.

7.1. Forecast Connections capital expenditure

Table 11 details our forecast (gross) Connections capital expenditure for the forthcoming period. Our forecast average expenditure is $49.8 million, which is the same as our estimated average annual expenditure of $49.8 million in the current period.

Table 11 – Connections capital expenditure – Standard Control Services ($M, Real 2015)

	2016	2017	2018	2019	2020	TOTAL
Regulatory Proposal	48.2	49.3	50.6	50.1	50.9	249.1

7.2. Forecast Customer Contributions

As discussed in section 6, we have forecast customer contributions to be consistent with both:

- The AER's Connections Guidelines; and
- The ESCV's existing Guideline 14.

Table 12 details our Gross Connections capital expenditure forecast for the forthcoming period based on Guideline 14 and the AER's Connection Guidelines. On this basis, our forecast average expenditure is $18.3 million, which is higher than our estimated average annual customer contributions of $14.3 million in the current period.

Table 12 – Customer Contributions – Standard Control Services ($M, Real 2015)

	2016	2017	2018	2019	2020	TOTAL
Regulatory Proposal	17.7	18.1	18.3	18.7	18.5	91.4

8. Meeting Rules' requirements

This section explains and justifies our Connections capital expenditure forecast against the capital expenditure objectives, criteria and factors in clause 6.5.7 of the Rules. It also details matters that our building block proposal must address under clause S6.1.2 of the Rules.

It therefore outlines why the AER should approve this Connections capital expenditure forecast as part of its distribution determination for our forthcoming regulatory period.

8.1. The capital expenditure objectives

The Rules set out the objectives our proposed capital expenditure for the forthcoming regulatory period are required to achieve.

Clause 6.5.7(a) is:

(a) A *building block proposal* must include the total forecast capital expenditure for the relevant *regulatory control period* which the *Distribution Network Service Provider* considers is required in order to achieve each of the following (the *capital expenditure objectives*):

(1) meet or manage the expected demand for *standard control services* over that period;

(2) comply with all applicable *regulatory obligations or requirements* associated with the provision of *standard control services*;

(3) to the extent that there is no applicable *regulatory obligation or requirement* in relation to:

(i) the quality, reliability or security of supply of *standard control services*; or

(ii) the reliability or security of the *distribution system* through the supply of *standard control services*,

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of *standard control services*; and

(iv) maintain the reliability and security of the *distribution system* through the supply of *standard control services*; and

(4) maintain the safety of the *distribution system* through the supply of *standard control services*.

Standard control services include connection services. Our proposed Connections capital expenditure is required to provide these connection services.

Meeting and managing expected demand for connection services, as required by clause 6.5.7(a)(1), is the predominant objective of our proposed Connections capital expenditure. As explained in section 0, this expenditure involves establishing new connections or modifying or extending our existing distribution system to accommodate new customers' demand.

Our proposed Connections capital expenditure is necessary to comply with all applicable regulatory obligations or requirements associated with the provision of connection services – which are set out in section 4.1 above – as required by clause 6.5.7(a)(2).

Accordingly, our proposed Connections capital expenditure is required to meet or manage demand for connection services in accordance with the Distribution Licence and the Electricity Distribution Code.

8.2. The capital expenditure criteria

The Rules set out the expenditure criteria that are relevant to our Connections capital expenditure forecast for the forthcoming regulatory control period. Clause 6.5.7(c) is:

(c) The *AER* must accept the forecast of required capital expenditure of a *Distribution Network Service Provider* that is included in a *building block proposal* if the *AER* is satisfied that the total of the forecast capital expenditure for the *regulatory control period* reasonably reflects each of the following (the *capital expenditure criteria*):

(1) the efficient costs of achieving the *capital expenditure objectives*;

(2) the costs that a prudent operator would require to achieve the *capital expenditure objectives*; and

(3) a realistic expectation of the demand forecast and cost inputs required to achieve the *capital expenditure objectives*.

We develop our Connections capital expenditure forecast using the four step method set out in section 6. Section 6.7 explains why we consider this is the best available forecasting method and results in forecast capital expenditure that is prudent and efficient. Our forecast:

- Is based on trend analysis and benchmarking, which is consistent with the AER's proposed approach to assessing Connections capital expenditure, as set out in the Expenditure Forecast Assessment Guideline;
- Is consistent with the approach that we applied in our Regulatory Proposal for the current period to forecast our Connections capital expenditure, which the AER accepted;
- Is in line with our actual (and estimated) expenditure for the current period. We estimate that our average annual Connections capital expenditure for the current period will be $49.8 million and forecast average annual Connections capital expenditure for the forthcoming period of $49.8 million; and
- Customer contributions consistent with both the AER's Connections Guidelines and the ESCV's existing Guideline 14.

Our demand forecasts are explained and justified in step 1 in section 6.2 above.

Our forecast unit rates are explained and justified in step 2 in section 6.3 above.

8.3. Capital expenditure factors

The Rules set out the capital expenditure factors to which regard must be had in considering our Connections capital expenditure forecast for the forthcoming regulatory control period.

Clause 6.5.7(e) is:

(e) In deciding whether or not the *AER* is satisfied as referred to in paragraph (c), the *AER* must have regard to the following (the *capital expenditure factors*):

(1) [**Deleted**]

(2) [**Deleted**]

(3) [**Deleted**]

(4) the most recent *annual benchmarking report* that has been *published* under rule 6.27 and the benchmark capital expenditure that would be incurred by an efficient *Distribution Network Service Provider* over the relevant *regulatory control period*;

(5) the actual and expected capital expenditure of the *Distribution Network Service Provider* during any preceding *regulatory control periods*;

(5A) the extent to which the capital expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the *Distribution Network Service Provider* in the course of its engagement with electricity consumers;

(6) the relative prices of operating and capital inputs;

(7) the substitution possibilities between operating and capital expenditure;

(8) whether the capital expenditure forecast is consistent with any incentive scheme or schemes that apply to the *Distribution Network Service Provider* under clauses 6.5.8A or 6.6.2 to 6.6.4;

(9) the extent the capital expenditure forecast is referable to arrangements with a person other than the *Distribution Network Service Provider* that, in the opinion of the *AER*, do not reflect arm's length terms;

(9A) whether the capital expenditure forecast includes an amount relating to a project that should more appropriately be included as a *contingent project* under clause 6.6A.1(b);

(10) the extent the *Distribution Network Service Provider* has considered, and made provision for, efficient and prudent non-*network* alternatives; and

(11) any relevant final project assessment report (as defined in clause 5.10.2) *published* under clause 5.17.4(o), (p) or (s):

(12) any other factor the *AER* considers relevant and which the *AER* has notified the *Distribution Network Service Provider* in writing, prior to the submission of its revised *Regulatory Proposal* under clause 6.10.3, is a *capital expenditure factor*.

In relation to subparagraph (4), the AER's November 2014 benchmarking report, discussed in Chapter 10 of our Regulatory Proposal, shows that we benchmark very favourably against other DNSPs.

In relation to subparagraph (5), we have set out in sections 3 and 5 our actual capital expenditure during the previous regulatory control period (2005-10) and actual and expected capital expenditure in the current regulatory control period (2011-15). To accompany this information, we have presented the actual and expected capital expenditure by reference to the allowance approved by the AER (and, for the 2005-10 regulatory control period, the ESC).

In relation to subparagraph (5A), as presented in our "Customer engagement initiatives and outcomes" document, we have conducted a comprehensive program of customer engagement to identify the concerns of customers and to ensure that its proposed capital expenditure addresses those concerns. We discuss the outcome of this consultation for Connections capital expenditure in section 6.6.

In relation to subparagraph (6), we considered the relative prices of operating and capital inputs in developing our proposed forecasts, however new customer connections require us to incur capital expenditure in order to meet our obligations.

In relation to subparagraph (7), we considered the substitution possibilities between operating and capital expenditure, however new customer connections require us to incur capital expenditure in order to meet our obligations.

In relation to subparagraph (8), we are proposing to increase our demand management incentive scheme funding in the forthcoming regulatory period to build on our demand management capabilities and reduce Connections capital expenditure over time.

In relation to subparagraph (9), our contracts with our service providers were competitively tendered on an arms' length basis. This was described in our Regulatory Proposal for the current regulatory period and accepted by the AER in its Distribution Determination.

In relation to subparagraph (9A), none of the Connections capital expenditure should be included as a contingent project.

In relation to subparagraph (10), as discussed in subparagraph (7), the identification of non-network solution is in the very early stages, however, our plan is to avoid or defer capital expenditure wherever possible during the forthcoming regulatory period at the time economic non-network solutions are identified and required through the joint planning MoU and RIT-D processes.

In relation to subparagraph (11), we have published one final project assessment report in relation to the Dromana Supply Area (DMA 2nd transformer), however this is not relevant to our Connections capital expenditure forecast.

In relation to subparagraph (12), the AER has not identified to us any other relevant factors for consideration.

9. Supporting documentation

The following documents support UE's Connections Capital Expenditure submission for the 2016-2020 period.

Regulatory Proposal Overview Documents

UE's Maximum Demand Summary Paper

Capital Expenditure Overview - Reinforcements

Capital Expenditure Overview - Connections

Asset Management System Plans and Strategies

Customer Connection Guide[7]

UE PL 2200 Demand Strategy & Plan

Asset Management System Guidelines and Procedures

UE GU 2200 Network Planning Guidelines

UE GU 2202 Customer Initiated Capital (CIC) Expenditure Forecasting Guidelines

UE GU 2206 Network Planning Expenditure Forecasting Guideline

Models and supporting documents

CIC models

UE GU 2202 CIC Forecasting Guidelines

Customer contribution forecast model

RIN Procedures

UE PR 2211 Population of Connections Data for CA RIN

Expert Consultant Documents

NIEIR – Energy, Demand and Customer Number Forecasting

Part A – Maximum Demand Forecasts (including NIEIR model)

Australian Construction Industry Forum (ACIF) report

[7] http://uemg.com.au/customers/your-electricity/electricity-connections.aspx

Glossary

Abbreviations	
ACIF	Australian Construction Industry Forum
AER	Australian Energy Regulator
Capex	Capital expenditure
CIC	Customer Initiated Capital
ESCV	Essential Services Commission of Victoria
Guideline 14	The ESCV's "Electricity Industry Guideline No.14 – Provision of Services by Electricity Distributors"
M	Millions
MCR	Marginal cost of reinforcement
MoU	Memorandum of understanding
MW	megawatt
NECF	National Energy Customer Framework event
NER (Rules)	National Electricity Rules
Opex	Operating expenditure
RIN	Regulatory Information Notice
RIT-D	Regulatory Investment Test – Distribution
SoW	Statement of Work
UE	United Energy

Appendix A - Mapping UE Connections Project Categories to the AER Service Classification

Table 13: Map UE Connections Projects Categories to AER Service Classification

UE Project Grouping and Definition			AER's Framework and Approach	
Project category / sub-category code	**Project Description**	**Scope**	**Service**	**Classification**
CB	Business Supply Project	Industrial/Commercial developments. Excludes all residential developments except where loading is predominantly commercial		
CBE	Low Voltage Extension & Services	Includes new and upgraded line of mains, low voltage extensions, any low voltage alterations in substations but no high voltage works	Connections requiring augmentation	Standard Control Service
CBG	Ground Substation	New and upgraded high voltage works for ground substations. Excludes low voltage only works.		
CBH	High Voltage Customers	High voltage customer connections (including embedded generation connections)		
CBI	New Indoor Substation	New indoor substation installation		
CBK	New Kiosk Substation	New kiosk substation installation		
CBL	Line of mains	Line of mains for a business connection		
CBP	Pole Substation	New and upgraded high voltage works for pole substation installation - excludes low voltage only works.		
CBS	Pole Substation Modifications	Pole Substation Modifications		
CD	Urban Multi Occupancy Supply Project	Dual and Multiple occupancy dwelling with single point of supply in an urban area		
CDA	Urban Multi Occupancy - Pole to Pit	Supply from existing pole to new pit, project works, Supply provided via an existing underground to new pit (contract works) – Elective single premises	Elective undergrounding where above ground service currently exists	Alternative Control Service

UE Project Grouping and Definition			AER's Framework and Approach	
Project category / sub-category code	**Project Description**	**Scope**	**Service**	**Classification**
		Supply from existing pole to new pit, project works, Supply provided via an existing underground to new pit (contract works)	Customer initiated undergrounding and/or rearrangement of distribution assets serving that customer (subject to Guideline 14)	Standard Control Services
CH	Urban Residential Supply Project	Single occupancy dwelling with single point of supply (Underground Residential Development /Housing Estates)		
CHH	High Voltage Extension	New high voltage extension	Connections requiring augmentation	Standard Control Service
CHL	Low Voltage Extension	Supply provided via low voltage extension from existing low voltage circuit		
CL	Public Lighting	Public lighting projects		
CLA	Major Intersection	Public Lighting Capital Project – Major Intersections	New public lights	Negotiated Distribution Service
CLI	Minor Intersection	Public Lighting Capital Project – Minor Intersections		
CLM	Single Light-Minor Road	Single Lighting - Minor Road		
CLN	Minor Scheme	Public Lighting Capital Project - Minor Scheme		
CM	Contestable Metering New Services	New Meters, Time Switches & Services		
CMZ	New Service (overhead)	New meters, time switches and service line (overhead	Installation, operation, repair & maintenance of type 5-6 metering installations (including smart meters)	Alternative Control Service
CMU	New Service (underground)	New meters, time switches and service line (underground)		
CN	T5 Public Lighting	Public lighting projects and contract work – T5		

UE Project Grouping and Definition			AER's Framework and Approach	
Project category / sub-category code	**Project Description**	**Scope**	**Service**	**Classification**
CNJ	Single Light - Main Road	Single Light Main Road Contract Work Only	New public lights	Negotiated Distribution Service
CNM	Single Light - Minor Road	Single Light Minor Road Contract Work Only		
CNW	Watchman Lights	Watchman Lights Contract Work Only	Unclassified	Unclassified
CR	Recoverable Works	Recoverable Works, non-supply related network augmentation, Special Projects		
CRA	Road Authority - Overhead Work	Road Authority requested work, relocation of overhead assets	Customer initiated undergrounding and/or rearrangement of distribution assets serving that customer	Standard Control Service
		Emergency recoverable works where customer at fault	Emergency recoverable works	Unclassified
CRP	Inline Pole/Stays	Inline Pole/Stays	Rearrangement of network assets at customer request, excluding alteration and relocation of public lighting assets	Alternative control (quoted)
CRS	Substation Modification	Substation Modification	Customer initiated undergrounding and/or rearrangement of distribution assets serving that customer (subject to Guideline 14)	Standard Control Services
CRU	Underground of Assets	Undergrounding of Assets		
CRV	Major VicRoads Relocation	VicRoads requested works, relocation of overhead assets	Emergency recoverable works	Unclassified
CS	Rural Supply Project	Rural Supply Projects, including business and residential		

UE Project Grouping and Definition			AER's Framework and Approach	
Project category / sub-category code	**Project Description**	**Scope**	**Service**	**Classification**
CSO	Rural Sup Project - Overhead High Voltage Extension	New overhead high voltage extension for a rural area	Connections requiring augmentation	Standard Control Service
CSU	Rural Sup Project - Underground High Voltage Extension	New underground high voltage extension for a rural area		