



DRAFT DECISION
ActewAGL Distribution
Access Arrangement
2016 to 2021

Attachment 7 – Operating
expenditure

November 2015

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Note

This attachment forms part of the AER's draft decision on ActewAGL Distribution's access arrangement for 2016–21. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

Attachment 12 - Non-tariff components

Attachment 13 - Demand

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Shortened forms

Shortened form	Extended form
AA	Access Arrangement
AAI	Access Arrangement Information
AER	Australian Energy Regulator
ASA	Asset Services Agreement
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CCP	Consumer Challenge Panel
CESS	Capital Expenditure Sharing Scheme
CMF	construction management fee
CPI	consumer price index
DAMS	Distribution Asset Management Services
DRP	debt risk premium
EBSS	Efficiency Benefit Sharing Scheme
EIL	Energy Industry Levy
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	Value of Imputation Credits
GSL	Guaranteed Service Level
GTA	gas transport services agreement
ICRC	Independent Competition and Regulatory Commission
MRP	market risk premium
NECF	National Energy Customer Framework
NERL	National Energy Retail Law
NERR	National Energy Retail Rules
NGL	national gas law
NGO	national gas objective
NGR	national gas rules
NPV	net present value
opex	operating expenditure

Shortened form	Extended form
PFP	partial factor productivity
PPI	partial performance indicators
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
RIN	regulatory information notice
RoLR	retailer of last resort
RSA	Reference Service Agreement
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STTM	Short Term Trading Market
TAB	Tax asset base
UAFG	Unaccounted for gas
UNFT	Utilities Network Facilities Tax
WACC	weighted average cost of capital
WPI	Wage Price Index

7 Operating expenditure

Forecast opex is the forecast operating, maintenance and other non-capital costs incurred in the provision of gas distribution services. It includes labour costs and other non-capital costs that a prudent service provider is likely to require during an access arrangement period for the efficient operation of its network.

This attachment provides an overview of ActewAGL's opex proposal and our assessment of total opex.

As discussed in sections 2.2.4 and 3.1.2 of the Overview, this draft decision includes a true-up (or reconciliation) of revenue for 2015–16 to ensure that the 2015–16 interval of delay between the revision commencement date in ActewAGL's current access arrangement and the actual date on which revisions will take effect does not result in ActewAGL incurring a windfall gain or loss due to the delay in the access arrangement review. As a result of the interval of delay we have determined the relevant building blocks for 2015–16, including opex. Therefore, in addition to approved opex allowances for the 2016–21 period, we have determined an opex allowance for 2015–16.

7.1 Draft decision

We are not satisfied that the forecast of total opex ActewAGL proposed complies with the opex criteria and the criteria for forecasts and estimates.¹ We therefore do not accept the forecast of opex ActewAGL included in its building block proposal. Our estimate of ActewAGL's total opex for 2015–16 and for the 2016–21 period is shown in Table 7.1.

Table 7.1 Draft decision on ActewAGL's total opex (\$million, 2015–16)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	Total (2016–21)
ActewAGL's proposal	n/a	27.3	27.3	28.1	30.9	30.2	143.8
AER draft decision	24.7	26.0	26.1	26.5	27.1	27.3	133.0
Difference	n/a	-1.3	-1.2	-1.7	-3.8	-2.8	-10.8

Note: Excludes debt raising costs.

ActewAGL has estimated its actual opex for 2015–16 to be \$25.5 million (\$2015–16).

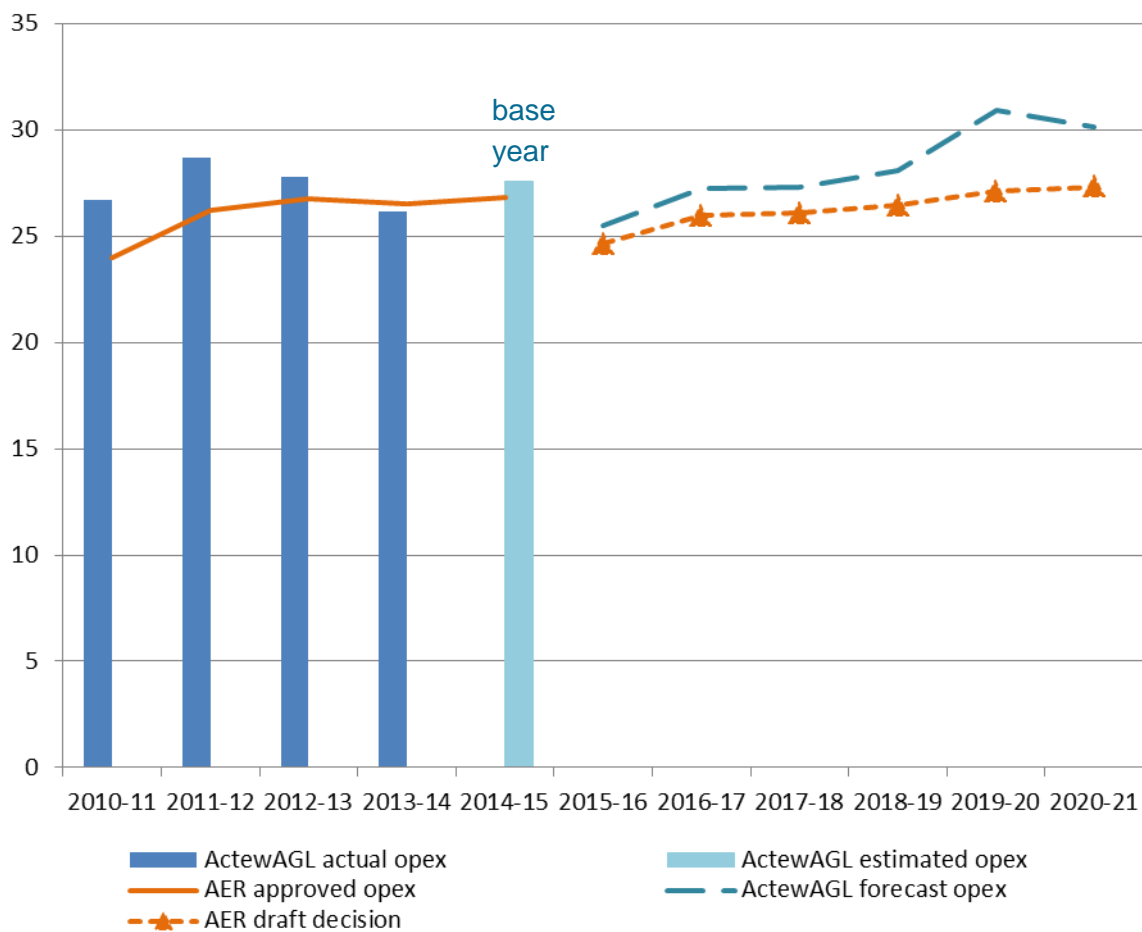
Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis. Numbers may not add due to rounding.

¹ NGR, rr. 74, 91.

7.2 ActewAGL's proposal

ActewAGL proposed total opex of \$143.8 million over the 2016–21 period, equivalent to an average annual opex of \$28.8 million. This represents a seven per cent real increase on actual opex in the 2010–15 period. Figure 7.1 shows the approved and actual opex for the 2010–15 period together with ActewAGL’s proposed opex and the AER’s draft decision.

Figure 7.1 Comparison of AER approved and ActewAGL’s actual and forecast opex (\$million, 2015–16)



Note: Excludes debt raising costs. ActewAGL's opex model included forecast opex for 2015–16 of \$25.5 million (\$2015–16).

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis.

ActewAGL described its opex forecasting method in its access arrangement information:

1. ActewAGL used an estimate of its actual (revealed) expenditure in 2014–15 as the starting point for calculating its base opex. This was \$27.6 million (\$2015–16).
2. ActewAGL proposed adjustments to its base year opex to remove \$2.5 million (\$2015–16) in non-recurrent costs and \$8.2 million in categories of opex that it

forecast separately. Together, these resulted in a reduction in base opex by \$10.7 million (\$2015–16). We assess ActewAGL’s proposed base year opex in section 7.4.2.

3. ActewAGL then proposed adjustments to trend its adjusted base year opex forward:
 - a. ActewAGL accounted for forecast price changes by applying forecast changes in labour prices. The application of these forecast price changes increased its opex forecast by \$2.5 million (\$2015–16) over the 2016–21 period. We assess ActewAGL’s proposed forecast price changes in section 7.4.3.2.
 - b. ActewAGL’s forecast output changes increase its opex forecast by \$2.0 million (\$2015–16) over the 2016–21 period. We assess ActewAGL’s proposed output growth in section 7.4.3.3.
 - c. ActewAGL did not apply a productivity component as part of the rate of change. We assess ActewAGL’s proposed approach to productivity in section 7.4.3.4.
4. ActewAGL added a number of step changes that increased its opex forecast by \$5.6 million (\$2015–16). We assess ActewAGL’s proposed step changes in section 7.4.4.
5. Lastly, ActewAGL added forecast opex for six categories of expenditure that it proposed be specifically forecast :
 - Utilities Network Facilities Tax (UNFT)
 - Energy Industry Levy (EIL)
 - Unaccounted for gas (UAFG)
 - water bath heater operations
 - ancillary services
 - insurance.

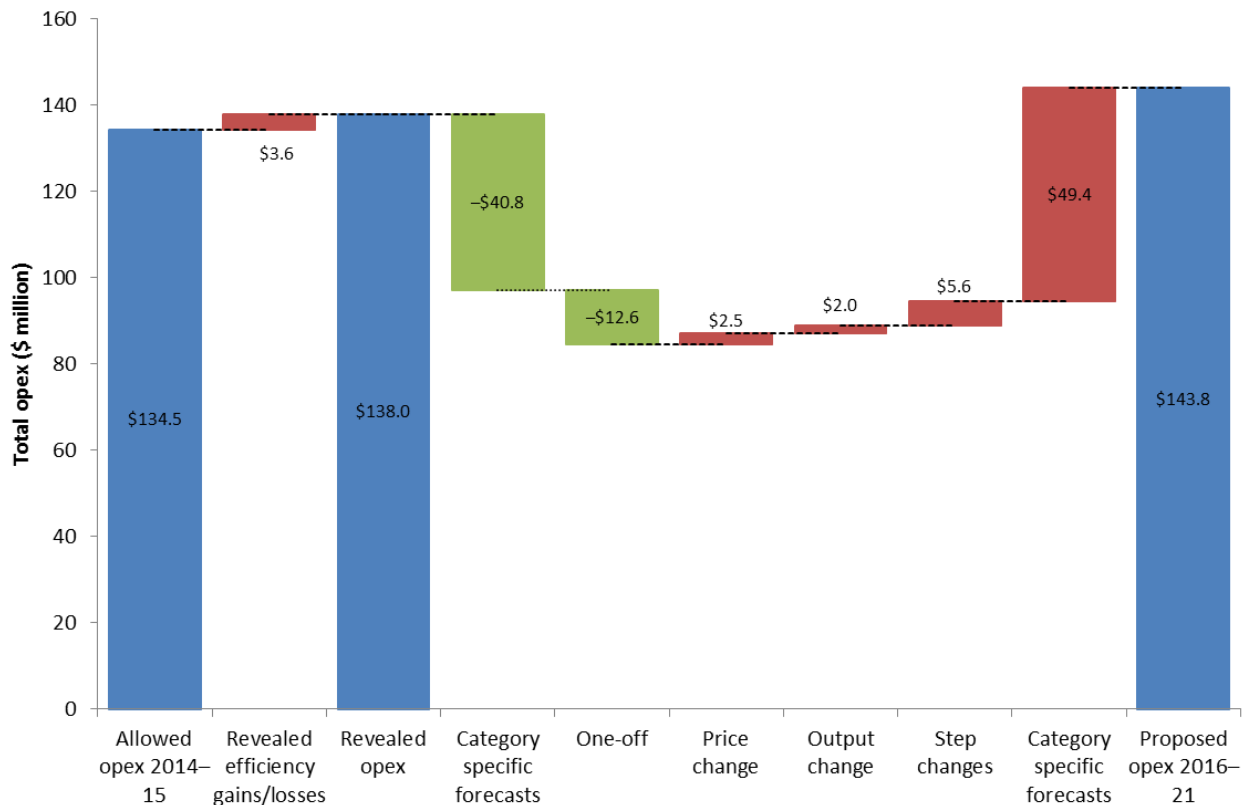
Together, these expenditure categories increase total opex by \$49.4 million (\$2015–16) over the 2016–21 period.² Debt raising costs are also subject to a specific forecast.³

The components of ActewAGL’s forecasting method and their impacts are shown in Figure 7.2.

² We note that UNFT comprises almost 70 per cent of the total category specific forecast opex.

³ Debt raising costs are reviewed in Attachment 3 - Rate of return.

Figure 7.2 Forecasting method impacts (\$million, 2015–16)



Note: ActewAGL overspent the AER approved allowance for the current period by around \$4 million. This overspend was driven by an increase in non-controllable opex, in particular, the Utilities Network Facilities Tax, notwithstanding savings resulting from greater efficiencies in other opex.

Source: AER analysis.

7.3 AER’s assessment approach

We decide whether or not to accept a service provider's total forecast opex proposal. We approve the service provider's forecast opex if we are satisfied that it is consistent with the criteria governing operating expenditure (the opex criteria).⁴

91. Criteria governing operating expenditure

- (1) Operating expenditure must be as such as would be incurred by a prudent service provider acting efficiently to provide the lowest sustainable cost of delivering pipeline services

⁴ Also see NGR, r. 40(2).

In determining whether forecast opex is consistent with the opex criteria we have regard to the criteria for forecasts and estimates.

74. Forecasts and estimates

- (1) Information in the nature of a forecast or estimate must be supported by a statement on the basis of the forecast or estimate
- (2) A forecast or estimate:
 - (a) must be arrived at on a reasonable basis; and
 - (b) must represent the best forecast or estimate possible in the circumstances.

Our approach is to compare the service provider's total forecast opex with our alternative estimate of total opex. By doing this, we form a view on the reasonableness of the service provider's proposal. If we are not satisfied that the proposal complies with the opex criteria we use our alternative opex estimate as a substitute.

Our estimate is unlikely to exactly match the service provider's forecast because the service provider may adopt a different forecasting method to us. However, if the service provider's inputs and assumptions are reasonable, its method should produce a forecast consistent with our estimate. Accordingly, part of our approach is to assess the service provider's forecasting method as well as the inputs and assumptions it used to form its opex forecast.

7.3.1 Building an alternative estimate of total forecast opex

Our approach to forming an alternative estimate of opex involves five key steps:

- We typically use the service provider's actual opex in a single year as the starting point for our assessment. While categories of opex can vary from year to year, total opex is relatively recurrent.⁵
- We assess whether opex in that base year complies with the opex criteria. If necessary, we make an adjustment to the base year expenditure to ensure that it complies with the opex criteria.
- As opex tends to change over time due to price changes, output and productivity, we trend the adjusted base year expenditure forward over the access arrangement period to take account of these changes. We refer to this as the rate of change.
- We then adjust the base year expenditure to account for any other forecast cost changes over the forthcoming access arrangement period that would meet the opex criteria. This may be due to new regulatory obligations and efficient capex/opex trade-offs. We call these step changes.

⁵ AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013 and AER, *Explanatory Statement Expenditure Forecast Guideline*, November 2013.

- Finally we add any additional opex components which have not been forecast using this approach. For instance, we forecast debt raising costs based on the costs incurred by a benchmark efficient service provider. If we removed a category of opex from the selected base year, we will need to consider what additional opex is needed for this category of opex in forecasting total opex.

We have used this general approach in our past decisions. It is a well-regarded top-down forecasting model for regulatory purposes that has been employed by a number of Australian regulators over the last fifteen years. We have sometimes referred to it as the base-step-trend method in our past regulatory decisions.⁶

We set out more detail about each of the steps we follow in constructing our forecast below.

Step 1 – Starting point - base year expenditure

When we choose the base year, we aim to use a year that is most representative of efficient, recurrent expenditure. Typically, we start with the service provider's revealed expenditure in the second last year of the current access arrangement period. This is because this year usually has the most recent data available at the time we conduct our assessment. Accordingly, to the extent expenditure drivers change over time, it is likely to best reflect the forecast period. However, if this year does not represent efficient, recurrent costs, we may consider another year.

In choosing a base year, we also make a decision as to whether any categories of opex incurred in the base year should be removed. For instance:

- If a material cost was incurred in the base year that is unrepresentative of a service provider's future opex we may remove it from the base year in undertaking our assessment.
- Rather than use all opex in the base year, service providers also often forecast specific categories of opex using different methods. We must also assess these methods in deciding what the starting point should be. If we agree that these categories of opex should be assessed differently, we will also remove them from the base year.

Step 2 - Assessing base year expenditure

Regardless of the base year we choose, we must test the view that 'revealed expenditure' is the appropriate starting point because the service provider's actual expenditure may not be efficient. We will use all techniques available to us to do this. If we determine that a service provider's revealed expenditure is not efficient, we will not use it as our starting point for our estimate of total forecast opex.

⁶ AER, *Expenditure Forecast Assessment Guideline for Electricity Distribution*, November 2013 and AER, *Explanatory Statement Expenditure Forecast Guideline*, November 2013.

Step 3 - Rate of change

Once we have chosen an efficient starting point, we apply an annual escalator to take account of the likely ongoing changes to efficient opex over the forecast access arrangement period. Efficient opex in the forecast access arrangement period could reasonably differ from the efficient starting point due to changes in:

- prices
- outputs
- productivity.

We estimate the change by adding expected changes in prices (such as the cost of labour and materials) and outputs (such as changes in customer numbers and demand for gas). We then incorporate reasonable estimates of changes in productivity.

Step 4 - Step changes

We then consider if there is other opex needed to comply with the opex criteria in the forecast period. We refer to these as 'step changes'. Step changes may be for new, changed or removed obligations for the service provider in the upcoming access arrangement period, if there are efficient capex/opex trade-offs or other reasons why a service provider would need different opex to that incurred in the base year. We will typically accept proposals for step changes only if efficient base year opex and the rate of change in opex of an efficient service provider do not already include the proposed costs.

Step 5 - Other costs that are not included in the base year

In our final step, we make any further adjustments we need for our opex forecast to comply with the opex criteria. For instance, our approach is to forecast debt raising costs based on a benchmarking approach rather than a service provider's actual costs. This is to be consistent with the forecast cost of debt in the rate of return building block.

After applying these five steps, we arrive at our total opex forecast.

Comparing our opex forecast to the service provider's opex forecast

If a service provider's total forecast opex is sufficiently different to our estimate, we will examine the reasons for the difference. If there is no satisfactory explanation for this difference, we may form the view that the service provider's forecast does not comply with the opex criteria. Conversely, if our estimate demonstrates that the service provider's forecast is consistent with the opex criteria, we will accept the forecast. Whether or not we accept a service provider's forecast, we will provide the reasons for our decision.

7.3.2 Interrelationships

We note there are interrelationships between our opex forecast and other elements of ActewAGL's proposal. In assessing ActewAGL's total forecast opex we took into account these components, including:

- the impact of forecast demand on output growth in the rate of change (Attachment 13)
- the interrelationship between capex and opex in considering proposed step changes to opex
- the impact of ActewAGL's capitalisation policy on capex and opex (Attachment 6)
- the operation of the efficiency carryover mechanism in the current period, which provided an incentive to reduce opex throughout the period (Attachment 9)
- the approach to the assessing rate of return, to ensure there is consistency between our determination of debt raising costs and the rate of return building block (Attachment 3)
- The concerns of stakeholders identified in the course of ActewAGL's consultation with consumers and in submissions to the AER.

7.4 Reasons for draft decision

We assessed ActewAGL's opex forecast against our alternative estimate of opex. We are not satisfied ActewAGL's forecast opex for the 2016–21 period complies with the opex criteria and the criteria for forecasts and estimates.

The key areas of difference between our forecast and ActewAGL's forecast of total opex are:

- Adjusted base year expenditure – We do not consider the proposed base year expenditure of \$16.9 million (\$2015–16) to be a reasonable estimate for the purpose of forecasting opex for the 2016–21 period. We have not removed from the revealed base opex a number of cost categories that ActewAGL proposed to specifically forecast. This results in a higher than proposed efficient base year opex of \$18.6 million (\$2015–16) that we have applied for the purpose of forecasting total opex. We provide details on our assessment of base year opex in section 7.4.2.
- Rate of change - We consider ActewAGL's forecast price changes, output growth and productivity changes are not the best estimate of the rate of change in the circumstances. As such, we consider that including them in our forecast of total opex would not lead to a forecast of opex that complies with the opex criteria. We have applied a rate of change that takes into account an averaging approach to labour cost forecasts, the impact of output growth and productivity changes. We explain our reasons in section 7.4.3.
- Step changes – We accepted the following step changes as part of our alternative forecast of total opex:
 - National Energy Customer Framework (NECF)
 - National Business to Business harmonisation (B2B)
 - IT asset utilisation fee (NECF and B2B components only)
 - Changes in capitalisation policy.

We are not satisfied that the other step changes proposed by ActewAGL are necessary in order for our forecast of total opex to be consistent with the opex criteria. Our assessment of step changes is in section 7.4.4.

- Category specific forecasts – We accepted specific forecasts for the following categories of costs as part of our alternative forecast of total opex:
 - Utilities Network Facilities Tax
 - Energy Industry Levy
 - Unaccounted for gas.

We do not agree the other category specific forecasts proposed by ActewAGL result in a total opex forecast that complies with the opex criteria. Our assessment of category specific forecasts is contained in section 7.4.5.

We discuss each element of ActewAGL's opex proposal in the following section.

7.4.1 Forecasting method

We have assessed ActewAGL's forecasting method to examine whether this explains why its forecast opex is higher than our alternative opex. As ActewAGL forecast its opex using a base-step-trend approach that is consistent with our proposed method, we are satisfied that ActewAGL's forecasting method is not the key driver of the difference. Rather, the difference in the forecasts result from the different inputs and assumptions applied in the forecasting method.

7.4.2 Base year opex

We are not satisfied that ActewAGL's proposed base opex of \$16.9 million (\$2015–16) is a reasonable estimate for the purpose of forecasting opex for the 2016–21 period.

We consider a number of category specific costs that ActewAGL removed from the base year opex should remain in the base year opex.

Our estimate of 2014–15 base opex is \$18.6 million (\$2015–16). We consider this a better estimate for base year expenditure for the purpose of forecasting opex for 2015–16 and the 2016–21 period than the amount of \$16.9 million used by ActewAGL.

Is base opex efficient?

We have not been presented with evidence to suggest that ActewAGL's revealed costs in its proposed base year are materially inefficient.

In our assessment of ActewAGL's efficient opex, we rely primarily on analysis of ActewAGL's historical trends, the information submitted by ActewAGL as part of its regulatory proposal as well as the relevant information submitted by other gas network service providers in recent regulatory proposals.

Relevant to our opex assessment of the base year is that ActewAGL was subject to an opex efficiency incentive mechanism in the 2010–15 period. Typically, where a service provider is subject to an incentive mechanism we are satisfied that there is a

continuous incentive for a service provider to make efficiency gains and it does not have an incentive to increase its opex in the proposed base year. ActewAGL achieved improvements in its opex over the 2010–15 period, suggesting it was responding to the cost minimisation incentives in the framework and that its revealed costs are a reasonable basis for determining its forecast costs.⁷

We did not conduct our own economic benchmarking or category analysis to assess the efficiency of ActewAGL's revealed base year. This is because we do not have standardised data across gas network service providers (where we do for electricity network service providers).⁸

Which year should be used as the base year?

ActewAGL selected 2014–15 as the base year for forecasting opex for the 2016–21 period. Total opex in the proposed base year is estimated by ActewAGL to be \$27.6 million (\$2015–16) without adjustments and excluding debt raising costs.⁹

We consider that ActewAGL's base year is a reasonable base year for forecasting opex as:

- Most opex is recurrent in nature and actual costs incurred in 2014–15 are likely to be a good indicator of efficient costs in the 2016–21 period, particularly given the operation of an efficiency carryover mechanism in the current period.
- 2014–15 is the latest year for which actual audited data is available.¹⁰ To the extent that cost drivers do not change over time, 2014–15 is likely to best reflect expenditure in the forecast period.
- ActewAGL's opex is relatively stable across the 2010–15 access arrangement period. While there is an increase in 2014–15 opex compared to opex in 2013–14, the level of 2014–15 opex expenditure is consistent when compared across the 2010–15 period.

What should the base opex be?

In our assessment methodology, when assessing the base year, we also make a decision as to whether any categories of opex incurred in the base year should be removed.

⁷ Attachment 9 contains information on the efficiency carryover mechanism applied to ActewAGL in the 2010–15 period.

⁸ We note that the labour practices in ActewAGL's gas network business are substantively different to that in its electricity business. For example, the gas network business outsources a higher proportion of activities than in its electricity business.

⁹ Actual opex for the base year will be known before our final decision.

¹⁰ Typically, the AER uses revealed expenditure in the second last year as this is usually the most recent available at the time of our final decision. However, given the interval of delay, the outcome of the last year of the 2010–15 period is known and able to be used.

ActewAGL proposed adjustments to its chosen base year (2014–15) to remove non-recurrent costs and categories of opex that it forecast separately.

The two proposed non-recurrent cost adjustments totalled \$2.5 million (\$2015–16) and included \$2.3 million (\$2015–16) to prepare the 2016–21 access arrangement and \$0.2 million (\$2015–16) for one-off adjustments and cost allocation changes in the Distribution Asset Management Services (DAMS) agreement between ActewAGL and Jemena Asset Management (JAM).¹¹

Like ActewAGL’s forecast, our alternative assessment removed as a non-recurrent cost the one-off adjustment for cost allocation changes. However, we have included a proportion (20 per cent) of the 2014–15 costs associated with preparation of the 2016–21 access arrangement proposal in our assessment of efficient base year costs. This is because we consider the addition of this amount ensures compliance with the opex criteria.

ActewAGL also proposed specific forecasts for a number of categories of opex, removing any costs associated with these items from the base year.

We accept that Utilities Network Facilities Tax, Energy Industry Levy and unaccounted for gas should be separately forecast and not included in base opex. However we do not agree that ancillary services, water bath heater operations and insurance costs should be separately forecast. In our opex forecast, we include these expenditures in base opex. Our assessment of category specific forecasts is discussed in section 7.4.5

We did not identify other non-recurrent opex in the base year data that we considered should be excluded or additional cost categories that we considered should be specifically forecast.

Our estimate of 2014–15 base opex is \$18.6 million (\$2015–16).

7.4.3 Rate of change

Once we have determined the efficient base level of opex, we apply a forecast annual rate of change to account for efficient changes in opex over time.

In the *Expenditure Forecast Assessment Guideline* we developed a methodology for adjusting base year opex for known as the rate of change.¹² The rate of change is the ‘trend’ component of the Base–Step–Trend forecasting method.

¹¹ ActewAGL’s gas distribution network is managed through the DAMS agreement between ActewAGL Distribution and JAM. In July 2013, the new DAMS agreement came into effect which simplified and restructured the services in the agreement into two services (with associated fees), management services and assets services. Concurrent with renegotiation of the DAMS agreement, an Asset Services Agreement was negotiated between JAM and one of Zinfra’s subsidiaries, ZNX(2), under which the costs for asset services provided by ZNX(2) are passed through by JAM to ActewAGL Distribution.

¹² AER, *Expenditure forecast assessment guidelines - Explanatory statement*, November 2013, p. 61.

The rate of change is forecast as:

$$\Delta Opex = \Delta input\ price + \Delta output - \Delta productivity$$

Where Δ denotes the proportional change in a variable.

The rate of change captures the year on year change in efficient expenditure. Specifically, it accounts for forecast changes in outputs, prices and productivity. These three opex drivers should explain all changes in efficient opex. The output and productivity change variables capture the forecast change in the inputs required. The real price change variable captures the forecast change in the prices of those inputs.

7.4.3.1 Overall rate of change

As ActewAGL's proposed methodology is largely consistent with our methodology, we compare each component of the proposed rate of change with ours.

Overall, we were not satisfied that ActewAGL's rate of change complies with the opex criteria and the criteria for forecasts and estimates. We consider ActewAGL's rate of change to be overstated.

We adjusted ActewAGL's labour price to reflect an average of the BIS Shrapnel and Deloitte Access Economics (DAE) forecasts.

We adjusted the output growth rate to reflect the impacts of forecast consumption in addition to customer numbers, noting ActewAGL's method is only based on incremental costs associated with new customer connections.

We also took into account a productivity component, based on an ACIL Allen consulting report commissioned by ActewAGL, as we consider ActewAGL has scope to make productivity gains in the 2016–21 period.

Table 7.2 compares ActewAGL's proposal and our decision on the overall rate of change.

Table 7.2 AER and ActewAGL overall rate of change (per cent)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
ActewAGL’s proposal						
Real price growth	0.38	0.60	0.85	1.03	1.06	1.00
Output growth rate #	0.56	0.55	0.59	0.58	0.62	0.57
Productivity change	0.00	0.00	0.00	0.00	0.00	0.00
Opex rate of change	0.93	1.15	1.44	1.61	1.68	1.57
AER’s draft decision						
Real price growth	0.28	0.41	0.60	0.75	0.75	0.91
Output growth rate	-0.23	-0.04	-0.20	0.21	0.84	-0.50
Productivity change	0.50	0.50	0.50	0.50	0.50	0.50
Opex rate of change	-0.45	-0.12	-0.11	0.46	1.09	-0.09
Rate of change difference	-1.38	-1.27	-1.54	-1.15	-0.59	-1.66

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis. Numbers may not add due to rounding.

Derived growth rate based on ActewAGL’s estimate of incremental costs associated with new customer connections.

The following sections outline our assessment of each rate of change component.

7.4.3.2 Input price change

Under the rate of change approach opex is escalated by the change in input prices. The change in input prices accounts for key inputs that do not move in line with the CPI and form a material proportion of a service provider’s costs.

ActewAGL’s proposed input price change is driven by increased costs in labour. It proposed non-labour costs be escalated in-line with CPI.

ActewAGL engaged BIS Shrapnel to forecast changes in labour costs for the ACT and NSW.¹³ It assumed that 53 per cent of its labour is from NSW and that 47 per cent is from the ACT.

ActewAGL’s proposed input price weightings were 61.4 per cent labour and 38.6 per cent non-labour.

¹³ We accept ActewAGL’s explanation that labour estimates from both the ACT and NSW are required as a result of where labour is sourced to provide services through JAM under the DAMS Agreement.

We assessed the non-labour components of ActewAGL’s forecast. Like ActewAGL we consider that CPI represents the best estimate of non-labour price growth (that is, no real non-labour price growth) and have used this in our forecast input price change.

In addition to labour forecasts from BIS Shrapnel we assessed labour forecasts from DAE. Both forecasts are based on each consultant's view of general macroeconomics trends for the utilities industry and the overall Australian economy. Both also use the Australian Bureau of Statistics (ABS) Electricity, Gas, Water, Waste Service (EGWWS) sector to develop their forecasts.

We agree that the ABS EGWWS sector is currently the most appropriate benchmark to arrive at the best forecast. However, we consider an averaging approach that takes into account the consultants’ forecasting history, if available, to be a better method for selecting forecast changes in labour prices. We have adopted the averaging approach in the past because DAE typically forecast lower than actual Wage Price Index (WPI) and BIS Shrapnel typically forecast higher than actual WPI for the Australian EGWWS sector.¹⁴

Table 7.3 compares the changes in real wage price index forecasts (per cent) for the ACT and NSW EGWWS sector over the access arrangement period. The forecasts will be updated before the final decision to reflect any revised data.

Table 7.3 Comparison of consultants’ real labour forecasts for the ACT and NSW (per cent)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Deloitte (ACT)	0.3	0.5	0.6	0.9	0.8	0.8
BIS Shrapnel (ACT)	0.4	0.9	1.1	1.4	1.5	1.3
Deloitte (NSW)	0.3	0.2	0.5	0.6	0.6	n/a ¹⁵
BIS Shrapnel (NSW)	0.8	1.1	1.6	1.9	2.0	1.9

Source: ACT data: Deloitte Access Economics ‘Forecast growth in labour costs in NEM regions of Australia’ 15 June 2015 p10, BIS Shrapnel, ‘Real Labour and Material Cost Escalation Forecasts to 2020/21 – Australia, New South Wales & ACT’, February 2015, p. iii.

NSW data: Deloitte Access Economics ‘Forecast growth in labour costs in NEM regions of Australia’ 23 February 2015 p11, BIS Shrapnel, ‘Real Labour and Material Cost Escalation Forecasts to 2020/21 – Australia, New South Wales & ACT’, February 2015, p. iii.

We also assessed the proposed weightings between labour and non-labour costs. We consider ActewAGL’s proposed ratio of 61.4 per cent labour and 38.6 per cent

¹⁴ This approach is based on our previous analysis, which was corroborated by Professor Borland’s analysis. Refer to AER, *Access arrangement final decision SPI Networks (Gas) Pty Ltd 2013–17 – Part 3: appendices*, March 2013, p7.

¹⁵ The BIS Shrapnel forecast was the sole input in this year given a Deloitte forecast was not available. A forecast for this year will be included when new data becomes available.

non-labour appropriate. As these weightings are broadly consistent with Economic Insights 2013 benchmarking analysis and our final decision for the Jemena Gas Network’s (JGN) 2015–20 access arrangement, we use these weightings in our forecast.¹⁶¹⁷

Table 7.4 compares ActewAGL’s and the AER’s forecast real input price growth.

Table 7.4 – Forecast real input price growth (per cent)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
ActewAGL	0.38	0.60	0.85	1.03	1.06	1.00
AER	0.28	0.41	0.60	0.75	0.75	0.91

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis.

7.4.3.3 Output change

The ‘output change’ captures the change in expenditure due to changes in the level of outputs delivered. The variables included in the output change measure should reflect the main drivers of output for gas distribution businesses and should be modelled consistently between the historical and forecast period.

Under our rate of change approach, a proportional change in output results in the same proportional change in expenditure. Any subsequent adjustment for economies of scale is considered as a part of productivity.

ActewAGL accounted for output growth by using a bottom-up approach to estimate incremental costs associated with new customer connections. This approach uses new customer numbers as the sole driver of output growth.¹⁸ ActewAGL estimated the average additional opex cost per customer to be \$26.04 and included the resulting forecast expenditure in its total opex forecast.

We do not consider ActewAGL’s forecast of incremental growth opex adequately accounts for output growth as it does not account for any change in gas demand (throughput). Changes in gas demand will also impact on total opex. For example, opex includes maintenance expenditure which will vary depending on the size of the network and volume of gas consumed. As such, we have included the impact of

¹⁶ Economic Insights, Measurement of Inputs for Economic Benchmarking of Electricity Network Service Providers, 22 April 2013, p. 4.

¹⁷ AER, *Final decision Jemena Gas Networks (NSW) Ltd Access Arrangement 2015–20 Attachment 7 – Operating Expenditure*, June 2015, p. 7-17.

¹⁸ This position was in part informed by ACIL Allen Consulting, Final report to Jemena Asset Management on behalf of ActewAGL distribution gas network ‘*Productivity Study - ActewAGL Distribution Gas Network*’, 29 April 2015, p. 31. ACIL Allen Consulting’s analysis suggests that gas throughput is no longer a key driver of increasing operating expenses for the nine gas distribution businesses studied, which included ActewAGL.

changes in gas throughput as well as the impact of changes in customer connections in our output growth component of the rate of change.

In constructing our forecast rate of change we adopted the methodology Economic Insights used to prepare JGN's output change, which we accepted.¹⁹ The output weights determined by Economic Insights were:

- throughput (55 per cent)
- customers (45 per cent).

These output weights are based on established literature and we consider they are appropriate for forecasting ActewAGL's output change.²⁰

We reviewed ActewAGL's forecasts for customer numbers and gas demand. We consider that ActewAGL has overstated its new customer connections and gas demand (throughput) forecasts. Attachment 13 contains our assessment of these forecasts. We have therefore substituted our forecasts when calculating the output growth factor. Table 7.5 compares ActewAGL's proposed output growth rate with the AER's output growth rate.

Table 7.5 Comparison of ActewAGL and AER output growth rates (per cent)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
ActewAGL's output growth rate	0.56	0.55	0.59	0.58	0.62	0.57
AER output growth rate	-0.23	-0.04	-0.20	0.21	0.84	-0.50

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis.

7.4.3.4 Productivity change

Productivity is a measure of how well a business utilises its inputs to produce outputs. An increase in productivity could be due to an increase in outputs for a given level of inputs or a decrease in inputs for a given level of outputs. A positive productivity change will decrease the rate at which total opex needs to increase to deliver the same level of services. The productivity measure accounts for labour productivity, economies of scale, and the effect of industry wide technical change. An example of productivity change is increased efficiency due to better use of technology such as IT.

ActewAGL commissioned ACIL Allen Consulting to undertake a productivity study of its gas network business. This study included estimating ActewAGL's cost function and forecast partial productivity factor growth rates.

¹⁹ AER, 'Draft decision Jemena Gas Networks (NSW) Ltd Access arrangement 2015–20 Attachment 7 – Operating expenditure', November 2014, p. 7-40.

²⁰ Economic Insights, *Relative opex efficiency and forecast opex productivity growth of Jemena Gas Networks*, 3 October 2014, p.17

ACIL Allen Consulting's analysis produces an average forecast opex partial productivity growth rate of 0.5 per cent per annum.²¹ ActewAGL did not consider the study's findings suitably robust to apply to trend its opex forecast opex. ActewAGL considered ACIL Allen's analysis should be interpreted with caution due to limitations and concerns with benchmarking, including model selection, model parameter and data limitations.²²

Further, ActewAGL considered that the efficiency carryover mechanism ensured efficient costs are achieved. It stated that "It is difficult to separate one opex from the other. That is, what portion of the change in a service provider's costs is attributed to efficiency gains (losses) that it should be rewarded (penalised) for, and what portion is attributed to growth or decline in productivity".²³

ActewAGL therefore did not include a forecast productivity change in the rate of change applied to its forecast opex.

We consider that the inclusion of forecast productivity change is necessary for us to be satisfied that total forecast opex complies with the opex criteria. If we did not include forecast productivity changes then total forecast opex would be greater than the efficient costs that a prudent operator would require (if productivity change is positive).

We do not accept ActewAGL's argument that reliance should be placed solely on the efficiency carryover mechanism to achieve efficient costs. The purpose of the efficiency carryover mechanism is specifically to provide a constant incentive for a service provider to pursue efficiency gains over the access arrangement period. Absent an efficiency carryover mechanism, the incentive to make efficiency gains will decline over the access arrangement period.²⁴ An efficiency carryover mechanism also discourages a service provider from incurring opex in the expected base year in order to receive a higher opex allowance in the following access arrangement period. The application of this mechanism does not obviate the requirement on us under the NGR to set a total opex forecast that is consistent with the opex criteria. Forecasting a productivity component is consistent with the application of an efficiency carryover mechanism.

We consider that ActewAGL should be able to achieve productivity growth in the 2016–21 period, and not including productivity growth will result in a total opex forecast that does not meet the opex criteria.

In part, these views derive from previous experience. Achieving some productivity gains would be consistent with ActewAGL's past experience as well that of other gas distribution businesses. We note that the gas distribution industry has experienced

²¹ ACIL Allen Consulting, Final report to Jemena Asset Management on behalf of ActewAGL distribution gas network 'Productivity Study - ActewAGL Distribution Gas Network', 29 April 2015 p. xii.

²² ActewAGL, *Appendix 5.01: Operating expenditure base year and trend forecast efficiency*, June 2015, p. 18.

²³ ActewAGL, *Appendix 5.01: Operating expenditure base year and trend forecast efficiency*, June 2015, pp. 17, 18.

²⁴ AER, *Efficiency Benefit sharing Scheme for Electricity Network Service Providers*, November 2013.

improvements in productivity since 1999, with higher productivity gains experienced during the 1999–2006 period than during the 2006–13 period. We also note that the gas industry opex partial factor productivity between 2006–13 was 2.12 per cent per annum.²⁵ However, with declining productivity for the gas industry as a whole, we do not consider the historical industry average to be the best forecast to apply to ActewAGL in the 2016–21 period.

Other service providers and the industry as a whole have achieved productivity growth and have forecast productivity gains in the future. For example JGN recently forecast average annual productivity growth of 0.59 per cent over its 2015–20 access arrangement period.²⁶ ActewAGL and JGN have some common ownership and, as discussed in relation to step changes, ActewAGL has used certain JGN costs to forecast its own costs for the 2016–21 period.

We have applied ACIL Allen Consulting’s forecast productivity of 0.5 per cent per annum to derive our overall rate of change. Notwithstanding ActewAGL’s concerns regarding ACIL Allen’s productivity study, we note this is the most up to date productivity forecast for a gas distribution business we have available at this time and it is specific to ActewAGL. It is also similar to the recent average annual productivity forecast by JGN for its 2015–20 access arrangement period which we accepted. Therefore, we consider a 0.5 per cent annual level of productivity growth is achievable by ActewAGL, and have incorporated it into our overall rate of change.

Table 7.6 contains our decision on the productivity component to be applied in the rate of change factor.

Table 7.6 AER’s productivity change forecast (per cent)

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
AER’s productivity change	0.5	0.5	0.5	0.5	0.5	0.5

Note: ActewAGL did not include a forecast productivity component in the rate of change applied to its forecasts.

Source: AER analysis.

7.4.4 Step changes

In some instances, a service provider may face a step change in efficient costs that is not reflected in the base year or rate of change for the access arrangement period. Our assessment of step changes is made in the context of our assessment of the service provider’s total forecast opex. When assessing a service provider’s proposed step changes, we consider whether with those changes, total opex would comply with the opex criteria.

²⁵ AER, *Draft decision Jemena Gas Networks (NSW) Ltd Access arrangement 2015–20 Attachment 7 - Operating expenditure*, November 2015, p. 7-42.

²⁶ Jemena Gas Networks, *2015-20 Access arrangement, Response to the AER’s draft decision and revised proposal, Appendix 5.2 - Updated productivity assessment for JGN*, 27 February 2015, p. iii.

As a starting point, we consider whether the proposed step changes in opex are already compensated through other elements of our opex forecast, such as the base efficient opex or the 'rate of change' component. Step changes should not double count costs included in other elements of the opex forecast.

We generally consider an efficient base level of opex (rolled forward each year with an appropriate rate of change) is sufficient for a prudent and efficient service provider to meet all existing regulatory and service obligations. We only include a step change in our opex forecast if we are satisfied a prudent and efficient service provider would need an increase in its opex to reasonably reflect the opex criteria.

We forecast opex by applying an annual 'rate of change' to the base year for each year of the forecast access arrangement period. The annual rate of change accounts for efficient changes in opex over time. It incorporates adjustments for forecast changes in output, price and productivity. Therefore, when we assess the proposed step changes we need to ensure that the cost of the step change is not already accounted for in any of those three elements included in the annual rate of change. The following explains this principle in more detail.

For example, a step change should not double count the costs of increased volume or scale compensated through the forecast change in output. We account for output growth by applying a forecast output growth factor to the opex base year. If the output growth measure used captures all changes in output then step changes that relate to forecast changes in output will not be required. To give another example, a step change is not required for the maintenance costs of new office space required due to the service provider's expanding network. The opex forecast has already been increased (from the base year which includes office maintenance) to account for forecast network growth.²⁷

By applying the rate of change to the base year opex, we also adjust our opex forecast to account for real price increases. A step change should not double count price increases already compensated through this adjustment. Applying a step change for costs that are forecast to increase faster than CPI is likely to yield a biased forecast if we do not also apply a negative step change for costs that are increasing by less than CPI. A good example is insurance premiums. A step change is not required if insurance premiums are forecast to increase faster than CPI because within total opex there will be other items opex where the price may be forecast to increase by less than CPI. If we add a step change to account for higher insurance premiums we might provide a more accurate forecast for the insurance category in isolation; however, our forecast for opex as a whole will be too high.

²⁷ AER, *Explanatory guide: Expenditure assessment forecast guideline*, November 2013, p.73. See, for example, our decision in the Powerlink determination; AER, *Final decision: Powerlink transmission determination 2012–17*, April 2012, pp, 164–165.

Further to assessing whether step changes are captured in other elements of the opex forecast, we assess the reasons for, and the efficient level of, the incremental costs the service provider has proposed. In particular, we have regard to:²⁸

- whether there is a change in circumstances that affects the level of expenditure a prudent service provider requires to meet the opex criteria efficiently
- what options were considered to respond to the change in circumstances
- whether the option selected was the most efficient option—that is, whether the service provider took appropriate steps to minimise its expected cost of compliance
- the efficient costs associated with the step change and whether the proposal appropriately quantified all costs savings and benefits
- when the change event occurs and when it is efficient to incur expenditure, including whether it can be completed over the access arrangement period
- whether the costs can be met from existing regulatory allowances or from other elements of the expenditure forecasts.

One important consideration is whether each proposed step change is driven by an external obligation (such as new legislation or regulations) or an internal management decision (such as a decision to use contractors). Step changes should generally relate to a new obligation or some change in the service provider's operating environment beyond its control in order to be expenditure that complies with the opex criteria. It is not enough to simply demonstrate an efficient cost will be incurred for an activity that was not previously undertaken. As noted above, the opex forecasting approach may capture these costs elsewhere.

Usually increases in costs are not required for discretionary changes in inputs. Efficient discretionary changes in inputs (not required to increase output) should normally have a net negative impact on expenditure. For example, a service provider may choose to invest capex and opex in a new IT solution. The service provider should not be provided with an increase in its total opex to finance the new IT since the outlay should be at least offset by a reduction in other costs if it is efficient. This means we will not allow step changes for any short-term cost to a service provider of implementing efficiency improvements. We expect the service provider to bear such costs and thereby make efficient trade-offs between bearing these costs and achieving future efficiencies.

One situation where a step change to total opex may be required is when a service provider chooses an operating solution to replace a capital one. For example, it may choose to lease vehicles when it previously purchased them. For these capex/opex trade-off step changes, we will assess whether it is prudent and efficient to substitute capex for opex or vice versa. In doing so we will assess whether the forecast opex

²⁸ AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

over the life of the alternative capital solution is less than the capex in Net Present Value (NPV) terms.

We recognise there could be other changes to opex not accounted for through our estimate of base opex and rate of change which is required to meet the opex criteria. For this reason, we assess each proposed step change on its merits. If we are presented with persuasive evidence that a service provider would incur opex that meets the opex criteria in addition to our estimate of base opex (adjusted for our estimate of the rate of change in base opex), then we will include that step change.

However, in identifying other reasons why step changes may occur we consider it is important that the approach to identifying these cost drivers is not subject to bias. The ultimate test we must apply is that step changes are only applied where they are needed for the total opex forecast to reasonably reflect the opex criteria. For instance, we do not consider we should apply a step change just because opex on a particular category is expected to rise. Over an access arrangement period, opex on various categories of opex will both increase and decrease. However, fluctuations in opex at the category level can be managed by a prudent and efficient service provider without increasing its total opex. For instance, a service provider can re-prioritise some areas of opex. Therefore a step change in total forecast opex may not be necessary.

ActewAGL proposed 11 step changes which result in an increase in total opex of \$5.6 million (\$2015–16). We assessed ActewAGL's proposed step changes to determine whether these should be included in our total opex forecast. Table 7.7 shows ActewAGL's proposed step changes and our position on each of them. Our reasons are provided below.

Table 7.7 AER’s draft decision on step changes (\$million, 2015–16)

Proposed step change	Amount	Draft decision
National Energy Customer Framework compliance	0.8	0.8
National Business to Business harmonisation	1.1	1.1
IT asset utilisation fee	4.2	1.0
Network risk and security management	0.5	0.0
Hoskinstown O&M contract renegotiation	0.3	0.0
Periodic inspections of exposed main and water bath heater assets	0.3	0.0
New capex driven opex	0.6	0.0
Revised metering and technical codes compliance	-0.45	0.0
RIN reporting requirements from the 2016–21 access arrangement	1.6	0.0
2021 access arrangement revision project	3.2	0.0
Change in capitalisation policy	-6.6	-4.6
Total step changes	5.6	-1.7

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model spreadsheet; AER analysis. Numbers may not add due to rounding.

National Energy Customer Framework compliance

The National Energy Customer Framework (NECF) is a national regulatory regime governing the sale and supply of energy to consumers with the intention of delivering regulatory certainty, reduced compliance costs, and competition benefits to consumers. It is a major component of the Council of Australian Governments’ national energy market reform program, which aims to streamline energy retail market regulation.

NECF has applied in large part in the ACT since 1 July 2012. However, certain elements of NECF were held back from application until the commencement of this access arrangement period.²⁹ ActewAGL is required to comply with all NECF requirements from 1 July 2016, and this step change covers those elements with delayed application.

ActewAGL proposed a step change of \$0.8 million (\$2015–16) over the access arrangement period for increased operational costs to comply with NECF customer support and billing and NECF connection services requirements.

²⁹ <http://www.aemc.gov.au/getattachment/95832d23-1789-4902-b717-4a66ec3d5536/National-Gas-Rules-Version-28.aspx>.

ActewAGL intends to meet the NECF requirements through JAM under the DAMS agreement. ActewAGL's forecast opex is based on a portion of JGN's forecast for these activities. As we considered these costs to be reasonable in our final decision for JGN's 2015–20 access arrangement, proportionate costs have been accepted for ActewAGL.³⁰

We have included this step change in our total opex forecast as it is driven by an increase in ActewAGL's regulatory obligations and does not double count costs captured in the base year expenditure.

National Business to Business harmonisation

ActewAGL proposed to include a \$1.1 million (\$2015–16) step change to meet obligations for business to business transactions with energy retailers.

These obligations result from the Australian Energy Market Operator's (AEMO) final decision on harmonisation of NSW/ACT B2B processes in February 2015.³¹ This approved an approach that involves IT system changes for retailers and network operators to facilitate harmonisation of NSW/ACT businesses to business processes similar to those arrangements in other jurisdictions.

For ActewAGL, this will involve applying the same service obligations and participant transactions that apply in Victoria and to manage these transactions through the AEMO Hub rather than via JAM's GASS+ system.

ActewAGL will meet the new B2B harmonisation requirements through JAM under the DAMS agreement. This involves increased resourcing requirements to support increased meter read data provision costs, special meter read data costs and service order notification costs. ActewAGL's forecast opex is based on a portion of JGN's forecast for these activities.³² As we considered these costs to be reasonable in our final decision for JGN's 2015–20 access arrangement, we accept ActewAGL's estimate of costs.

We have included this step change in our opex forecast as it is driven by a change in ActewAGL's regulatory obligations and the costs are not captured in the base year expenditure.

IT asset utilisation fee

Under the DAMS agreement between JAM and ActewAGL, JAM provides customer management, works management and a range of related services using the IT system, GASS+. ActewAGL stated that GASS+ has been used by JAM to support the functions

³⁰ ActewAGL estimated that services that will be provided to it by JAM are equivalent to 10 per cent of those for JGN, based on ActewAGL's relative number of customers.

³¹ http://www.aemo.com.au/Consultations/Gas-Consultations/General/IIR-IN006_14-Harmonisation-of-NSW_ACT-business-to-business-processes.

³² ActewAGL estimates that services provided to it are equivalent to 10 per cent of those for JGN based on ActewAGL's relative number of customers.

of running gas networks and billing customers and that the system is now at the end of its life, having commenced operation in 1992.

The solution replacement project is named 'Jemena Gas Networks Solution Replacement Project' and involves replacing the IT system GASS+ with an alternate system, OneSAP.³³ The ActewAGL GASS+ replacement solution is a subset of this project. The initial scope of the project involves three system projects (1) enabling continued delivery of business as usual services, as well as new capabilities to enable compliance with (2) NECF services and (3) B2B harmonisation services.

ActewAGL stated that JGN included the OneSAP replacement of GASS+ for approval as part of the IT capex requirement in its 2015–20 access arrangement proposal. It further stated that the allocated ActewAGL costs for the GASS+ replacement were not part of JGN's proposed capex for the 2015–20 period, but have been based on a percentage of these costs.

It is proposed that JAM will charge ActewAGL an IT utilisation fee annually over the 2016–21 period to recover ActewAGL's share of JGN's IT system assets for the three systems (which includes JGN's IT system design, development and implementation costs).

The capital costs for the ActewAGL's GASS+ replacement solution is forecast to cost \$3.36 million (\$2014–15).³⁴ This consists of \$2.54 million (\$2014–15) for the GASS+ replacement project, \$0.53 million (\$2014–15) for Business to Business harmonisation and \$0.30 million (\$2014–15) for NECF requirements.

The Consumer Challenge Panel 8 identified this step change for further AER scrutiny to ensure that quoted costs and IT systems were reasonable and consumers were not paying for these assets twice (for example through the ActewAGL's opex and additionally through the JGN return on capital).

With respect to the project component to enable continued delivery of business as usual services, ActewAGL's base opex already incorporates costs associated with the provision of these services through the GASS+ IT system. The replacement of the GASS+ system does not result in new functions. We therefore do not accept this component of the step change.

However, we accept the costs associated with the IT systems to achieve compliance with regulatory changes related to the Business to Business harmonisation (\$0.53 million) and National Energy Customer Framework requirements (\$0.30 million) step changes.³⁵ This is because the costs for these components are driven by a change in

³³ SAP (Business) One is business management software designed to automate key business functions in financials, operations, and human resources.

³⁴ GASS+ replacement costs have been apportioned to ActewAGL based on estimated activity or apportionment of costs on the basis of service points. ActewAGL's gas network has 10.14 per cent of the total service points for the JGN and ActewAGL gas networks).

³⁵ ActewAGL Distribution, 2016–21 access arrangement information: *Appendix 5:04 Step changes report*, pp. 10, 47.

regulatory obligations and are not included as part of the first two step changes discussed in this section.

Network risk and security management

ActewAGL proposed a step change of \$0.5 million (\$2015–16) to undertake periodic risk safety management studies (risk assessments) of its high pressure networks under Australian Standard 2885. ActewAGL also proposed some other minor costs associated with security management.

ActewAGL stated that the AS 2885 suite of Australian Standards require pipeline owners to undertake periodic safety management studies of their assets to ensure the continuing safe and reliable operation of those assets. It also stated that this step change reflects the periodic nature of the requirement and that no safety management studies were planned or required during the base year 2014–15.

We note that ActewAGL is already required to ensure its pipelines are prudently managed, and undertakes periodic assessments as part of this obligation. We also note that the amount forecast for these items is not material and that some variation in the composition of expenditure from year to year is expected under our forecasting approach. This means that expenditure for some categories will be higher than usual in a given year, while other categories will be lower than usual. On this basis, and given the low materiality of this proposed item, we have not accepted it as a step change as we consider that it is captured in our assessment of base opex.

Hoskinstown operating and maintenance contract renegotiation

ActewAGL proposed a \$0.3 million (\$2015–16) step change for additional costs to renegotiate contracts to provide ongoing operation and maintenance (O&M) requirements at the Hoskinstown metering station. ActewAGL stated that Hoskinstown will take an increasingly important role as the primary gas delivery source for the ACT network over the next few years.

This step change involves costs in two phases. Phase one involves costs associated with renegotiating a new contract and phase two involves ongoing costs in each year of the access arrangement period to deliver the O&M services.

ActewAGL stated that “renegotiating the contracts will provide ongoing O&M of this key ActewAGL asset and take into account increases in the volume of gas delivered through the Hoskinstown metering station, and any future O&M service provider”.³⁶

As noted earlier, typically, we do not allow step changes for business as usual services, such as renegotiating contracts. Further, we consider that opex associated with an increased throughput volume is provided for through the application of the rate of change factor. This is because the rate of change provides for changes in output of the network (based on changes in consumption and customer connection changes) and changes in input prices. We therefore do not accept this step change.

³⁶ ActewAGL, 2016–21 access arrangement information, Appendix 5.04 Step changes report, p. 22.

Periodic inspections of exposed main and water bath heater assets

ActewAGL proposed a \$0.3 million (\$2015–16) step change to undertake periodic inspections of exposed main³⁷ and water bath heater assets. It stated that its exposed mains require regular and comprehensive inspections and that its water bath heaters need to be maintained to meet the manufacturer's and regulatory requirements. ActewAGL further stated that the periodic inspections accounted for in the step change were not undertaken in the base year and are therefore not included in base opex.

We note that ActewAGL is already required to ensure its pipelines are prudently managed, and undertakes periodic assessments as part of this obligation. We also note that the amount forecast for this item is not material and that some variation in the composition of expenditure year to year is expected under our forecasting approach. This means that expenditure for some categories will be higher than usual in a given year, while other categories will be lower than usual. On this basis, and given the low materiality of this proposed item, we have not accepted it as a step change.

New capex driven opex

ActewAGL proposed a \$0.6 million (\$2015–16) step change in opex to account for additional work and resource requirements resulting from upgrades in capital equipment at the Fyshwick Trunk Receiving Station, Hoskinstown Custody Transfer Station, Philip Primary Regulating Station, Watson Pressure Limiting Station, as well as extensions to the Molonglo primary main. It stated that these assets are required to be maintained to the manufacturers and regulatory requirements. ActewAGL has also proposed a negative step change due to the closure of the Jerrabomberra Packaged Off-take Station.

We consider that opex associated with these capital upgrades and projects is provided for as part of our forecasting approach through the application of the rate of change factor to base opex.³⁸ This is because the rate of change provides for changes in the output of the network (based on changes in consumption and customer connections) and changes in input prices. We therefore do not accept the proposed capex driven opex should be treated as a step change.

In relation to the negative step change, we note that the opex associated with this change is not material and that some variation in the composition of expenditure from year to year is expected under our forecasting approach. On this basis, we do not accept this step change.

³⁷ An exposed main is a section of a pipe located on a bridge spanning over an obstacle such as a water course or a railway line.

³⁸ We also note that in Attachment 6 we have not accepted ActewAGL's proposal for capex to extend its primary mains to Molonglo in 2019–20 or to construct the Watson CTS Pressure Limiting Station.

Revised metering and technical codes compliance

ActewAGL stated that within the last two years the ACT had introduced amended safety and compliance codes for new gas services and metering installations. These codes are:

- Gas Service and Installations Rules Code (July 2013)
- Gas Network Boundary Code (May 2013)
- Gas General Metering Code (which is expected to be finalised in 2015–16).

ActewAGL stated these amendments increase the level of activity required to achieve and maintain compliance for its gas network.

ActewAGL also proposed costs associated with addressing the findings of a Formal Safety Assessment (FSA) study conducted by Jemena, be part of the step change. ActewAGL stated that the study indicated the number of maintenance inspections for specific classes of meters should be increased.

ActewAGL indicated that the objective of this step change is to maintain code compliance and address the outcomes of the FSA. It contended that the additional activity can only be performed with additional resources.

ActewAGL stated that at the same time as establishing additional personnel to meet the amended regulatory obligations, JAM changed its meter data loggers delivery model which has resulted in efficiency savings. Consequently, the management service fee paid to JAM by ActewAGL will decrease. The amount of the decrease in costs for meter data loggers installation and delivery is around \$0.9 million over the 2016–21 period.

ActewAGL indicated that the net effect of the FSA, the amended codes and the reduction in management services fee is a negative step change of \$0.45 million (\$2015–16) over the 2016–21 period.

We note that while the ACT Government may amend safety and compliance codes for gas services and metering installations, this does not necessarily result in an increased regulatory burden beyond that already taken into account in business as usual processes. ActewAGL has not provided evidence to demonstrate that additional opex would be required as a result of the amendments to the codes. In coming to our position we had regard to information from the ACT Government's Environment and Planning Directorate that indicated that these amendments were intended to clarify technical arrangements and liability issues for gas networks, not increase obligations.³⁹

Further, we do not consider the increased number of maintenance inspections recommended in Jemena's FSA study to be additional to business as usual activities. Decisions linked to findings in reviews are part of the normal operations and processes

³⁹ Attachment 6, section 6.4.5 which focuses on the capital expenditure aspects of this step change.

of a business. They are not new regulatory obligations or material changes in circumstance.

In relation to the reduction of the management services fee as a result of the changed delivery model for meter data loggers, we note that some variation in the composition of expenditure from year to year is expected under our forecasting approach. We consider that cost savings passed on by JAM as a result of the changed delivery model reflect this year on year variation. On this basis, we do not accept this step change as part of our alternative opex forecast, nor have we adjusted base year opex.

For clarity, we do not accept the step changes proposed in relation to the amended codes, the FSA study or the management service fee reduction.

Regulatory reporting requirements for the 2016–21 period

ActewAGL proposed a step change of \$1.6 million (\$2015–16) for the costs of anticipated increased regulatory reporting obligations over the next access arrangement period. ActewAGL stated that this would be consistent with increased reporting requirements for electricity networks and ActewAGL's access arrangement Regulatory Information Notice (RIN).⁴⁰

ActewAGL's proposal assumes that we will significantly increase our annual reporting requirements from 2016–17 onwards. Our better regulation guidelines and associated RINs only apply to electricity and not to gas and that is not expected to change over the next access arrangement period. As such, there should not be any expectation of a step change from existing reporting obligations.

We do not accept the proposed step change for annual regulatory reporting.

2021 access arrangement revision obligations

ActewAGL removed from the base year costs totalling \$2.3 million associated with the 2016–21 access arrangement proposal but proposed a step change of \$3.2 million (\$2015–16) for the costs associated increased in regulatory reporting obligations associated with preparation and submission of the 2021–26 access arrangement proposal.

Origin Energy identified this step change for further AER scrutiny as they did not consider it was clear that material new costs for would be incurred, given this process should be included recurrent expenditure.⁴¹

We do not accept this step change. Firstly, we consider there is no change in the regulatory reporting burden or material change in circumstances associated with the preparation and submission of the 2021–26 access arrangement proposal compared to that for the 2016–21 access arrangement proposal. Secondly, as noted in section 7.4.2, we have included costs for the preparation and submission of the 2021–26

⁴⁰ ActewAGL, *Appendix 5.04 Operating expenditure step changes*, p. 37.

⁴¹ Origin Energy, *Submission on ActewAGL Access Arrangement Proposal 2016–21*, 10 August 2015, p4.

access arrangement proposal in our assessment of efficient base year costs. These costs are based on a proportion of the costs incurred by ActewAGL in 2014–15 in developing the 2016–21 access arrangement proposal.

Change in capitalisation policy

ActewAGL proposed a negative step change of \$6.6 million (\$2015–16) to account for a change in the way corporate overhead costs are allocated.

ActewAGL’s Cost Allocation Method sets out the manner in which its shared costs are allocated between the services it provides as well as what costs are expensed to opex or capitalised as capex.

The proposed step change aligns (from 1 July 2015) the gas network Cost Allocation Method with that for ActewAGL’s electricity network.⁴² The change involves annual allocations of total corporate overheads to capex rather than opex.

We note that as a result of our capex assessment (Attachment 6), forecast corporate overhead costs allocated to capex have been revised to \$4.6 million (\$2015–16) over the 2016–21 period. We accept the negative step change of \$4.6 million (\$2015–16) and note that it is matched by a corresponding increase in capex.

7.4.5 Category specific forecasts

ActewAGL proposed specific forecasts for the following categories of opex.

Water bath heater operations

Water bath heater assets are heaters used to keep gas temperatures above a minimum temperature specified. This reduces the risk that pipe through which the gas is transported becomes brittle and fails. ActewAGL proposed a category specific forecast for water bath heater operations of \$0.7 million (\$2015–16) for the 2016–21 period. In its proposal, ActewAGL explained that it purchases unaccounted for gas and gas to operate water bath heater operations from JAM through the DAMS agreement.⁴³

The cost of operating water bath heater assets is calculated based on the basis of constant volumes multiplied by a forecast gas price.

Ancillary services

Ancillary services are services provided at the request of customers, for example, special meter reads, request for service, connections, disconnections and

⁴² In June 2013, AER approved a revised Cost Allocation Method for ActewAGL’s electricity distribution network and this revised CAM was applied in the ActewAGL electricity distribution network determination for the 2014–19 regulatory control period.

⁴³ ActewAGL, *2016–21 access arrangement information: Attachment 5: Operating expenditure*, p18.

decommissions. ActewAGL forecasts ancillary service costs will total \$6.0 million (\$2015–16) over the 2016–21 period.

ActewAGL proposed a bottom-up approach to calculating costs associated with the provision of ancillary services, which it considered better reflected the costs to provide these services.

Insurance

ActewAGL proposed a category specific forecast of insurance of \$0.6 million (\$2015–16) over the 2016–21 period. ActewAGL’s insurance costs are allocated throughout the ActewAGL Group of businesses on the basis of cost drivers specific to insurance.⁴⁴

Utilities Network Facilities Tax

The Utilities Network Facilities Tax (UNFT) is payable to the ACT Government by owners of any network facility on land in the ACT. A network facility is any part of the infrastructure of a utility network not fixed to land subject to either a lease, a license granted by the Territory or any right prescribed by regulation.⁴⁵

The tax amount payable is calculated by multiplying the determined rate set by the ACT Government by the linear route length of the network.

Energy Industry Levy

The Energy Industry Levy (EIL) is an ACT Government levy used to recover the costs of regulating utilities and is applied to four energy sectors: electricity distribution, electricity supply, gas distribution and gas supply. The ACT Government determines regulatory costs each year and apportions these between the four energy sectors.

EIL has two components, a component that is fixed (by the ACT government) and a component calculated by multiplying consumption (throughput) by a separate EIL rate, which is also determined by the ACT government.

Unaccounted for gas

Unaccounted for gas (UAFG) refers to any gas lost or unaccounted for while it is in ActewAGL’s custody. It is the difference between measured quantity of gas entering the network system (receipts) and metered gas deliveries (withdrawals). ActewAGL purchases UAFG from JAM through the DAMS Agreement.⁴⁶

⁴⁴ ActewAGL, *2016–21 access arrangement information: Attachment 5: Operating expenditure*, p18.

⁴⁵ Utility networks include networks for transmitting and distributing electricity, gas, sewage, water and telecommunications. Examples of network facilities include power lines or pipes over or under land, and telecommunications cabling.

⁴⁶ ActewAGL, *2016–21 access arrangement information: Attachment 5: Operating expenditure*, p18.

UAFG expenditure is forecast by multiplying the expected amount of unaccounted for gas (typically a percentage of throughput) by the forecast gas price.

Table 7.8 contains ActewAGL’s category specific forecasts for 2015–16 and the 2016–21 period, excluding debt raising costs. ActewAGL removed these cost categories from its base year costs.

Table 7.8 ActewAGL category specific forecasts (\$million, 2015–16)

Category forecasts	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
UNFT	5.86	6.11	6.37	6.64	6.92	7.26
UAFG	1.57	1.24	1.22	1.21	1.20	1.19
EIL	0.57	0.57	0.56	0.56	0.55	0.55
Water bath heater operations	0.17	0.14	0.14	0.14	0.14	0.14
Ancillary services	0.90	1.16	1.28	1.29	1.17	1.08
Insurance	0.12	0.12	0.12	0.12	0.12	0.12
Total	9.19	9.32	9.69	9.96	10.10	10.33

Source: ActewAGL Distribution Gas network Access Arrangement 2016–21 Opex model; AER analysis. Numbers may not add due to rounding.

Decision

As outlined in our assessment approach we are required to assess whether total opex complies with the opex criteria. Within total opex we would expect to see some variation in the composition of expenditure from year to year. That is, expenditure for some categories will be higher than usual in a given year while other categories will be lower than usual. Because a cost category can be separately forecast does not mean that it should be. Generally, it is best to use the same forecasting method for all cost categories because a hybrid approach that combines revealed cost and category specific methods can produce biased forecast at the total opex level, inconsistent with the opex criteria.

Frontier Economics considered our single year expenditure forecasting approach to forecasting total opex was appropriate when three conditions are met:^{47 48}

- the service provider must have incentives to minimise total controllable opex
- the service provider must have a continuous incentive to minimise opex

⁴⁷ Frontier Economics, ‘Opex forecasting and EBSS advice for the SP AusNet final decisions’, January 2014, p7.

⁴⁸ Frontier Economics, *Opex forecasting method*, December 2014, p. 5.

- total opex needs to be broadly recurrent, in that past actual expenditure can provide (with the aid of transparent adjustments) a reasonable reflection of future efficient expenditure.

Frontier Economics stated that if these conditions are met, it is reasonable to apply a single year revealed expenditure forecasting approach and to avoid using category specific forecasts or adjusting the base year.

We are satisfied that the first two conditions hold for ActewAGL. This is because an efficiency carryover mechanism applied to ActewAGL in the 2010–15 access arrangement period.

In assessing the category specific forecasts we have also reviewed ActewAGL's past opex to see if it is broadly recurrent and that past actual costs would provide a reasonable reflection of future efficient costs, at the total opex level.

We do not consider that water bath heater operations, ancillary services and insurance costs should be specifically forecasted. We note that the forecast insurance costs are consistent with the base year insurance costs. The forecast amounts for water bath heater operations across the 2016–21 period are not material (being around \$0.7m in total for the forecast period). In relation to ancillary services we note that costs in the 2014–15 base year for this category are not materially different to the forecasts over the 2016–21 period and are relatively stable. As such we do not consider these cost categories warrant category specific forecasts in order for us to derive a forecast of total opex that is consistent with the opex criteria.

We accept that the costs associated with UNFT, EIL, UAFG should be specifically forecast and removed from the base opex. We note that these cost categories are subject to a 'true-up' adjustment under the annual tariff variation mechanism and were subject to these arrangements in the previous access arrangement period.⁴⁹ For the true-up adjustment to operate, an annual forecast for each of these cost categories is required. The true-up adjustment allows ActewAGL to pass through the changes to these cost categories where actual opex is different (higher or lower) than the approved forecast.

Table 7.9 includes our forecast for category specific opex categories. Our forecasts are lower than those proposed by ActewAGL (Table 7.8) due to the lower demand (throughput) and lower customer numbers we have applied.⁵⁰

⁴⁹ Attachment 11 contains details on the tariff variation mechanism.

⁵⁰ Attachment 13 contains details on our assessment of Demand.

Table 7.9 AER decision on category specific forecasts (\$ million, \$2015–16)

Forecast	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	Total (2016–21)
UNFT	5.83	5.91	6.16	6.41	6.66	6.97	32.9
UAFG	1.60	1.25	1.24	1.22	1.21	1.21	6.1
EIL	0.57	0.57	0.56	0.56	0.56	0.56	2.8

Source: AER analysis.

7.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:

Revision 7.1: Make all necessary amendments to reflect our draft decision on the proposed opex allowances for 2015–16 and the 2016–21 period, as set out in Table 7.1.