



**FINAL DECISION**  
**Australian Gas Networks**  
**Access Arrangement**  
**2016 to 2021**

**Attachment 11 – Reference**  
**tariff variation mechanism**

May 2016

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## Note

This attachment forms part of the AER's final decision on the access arrangement for Australian Gas Networks' South Australian distribution network for 2016–21. It should be read with all other parts of the final decision.

The final 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

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## Shortened forms

Shortened form	Extended form
AA	Access Arrangement
AAI	Access Arrangement Information
AER	Australian Energy Regulator
AGN	Australian Gas Networks
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CCP	Consumer Challenge Panel
CESS	Capital Expenditure Sharing Scheme
CPI	consumer price index
CSIS	Customer Service Incentive Scheme
DRP	debt risk premium
EBSS	Efficiency Benefit Sharing Scheme
ECM	Efficiency Carryover Mechanism
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	value of imputation credits
GSL	Guaranteed Service Level
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
NIS	Network Incentive Scheme
NPV	net present value
opex	operating expenditure
PFP	partial factor productivity
PPI	partial performance indicators

Shortened form	Extended form
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
RIN	regulatory information notice
RoLR	retailer of last resort
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	Service Target Performance Incentive Scheme
TAB	tax asset base
UAFG	unaccounted for gas
WACC	weighted average cost of capital
WPI	Wage Price Index

## 11 Reference tariff variation mechanism

This attachment sets out our final decision on the reference tariff variation mechanism in AGN's revised access arrangement proposal for its South Australian Distribution Network for the 2016–21 access arrangement period.

The proposed reference tariff variation mechanism includes:

- an annual reference tariff variation mechanism, and
- a cost pass through mechanism, including a series of cost pass through events.

### 11.1 Final decision

We accept some, but not all, elements of the reference tariff variation mechanism in AGN's revised access arrangement proposal.

We have revised the access arrangement having regard to our reasons for refusing to approve AGN's proposal and the further matters identified in rule 64(2) of the NGR.

Our revisions are reflected in clauses 4.4.2, 4.5, 4.6.1 and Boxes 1, 2, 4 and 5 of Annexure E of the Approved Access Arrangement for AGN's South Australian Gas Distribution Network 1 July 2016-30 June 2021, which gives effect to our decision.<sup>1</sup>

#### 11.1.1 Annual reference tariff variation mechanism

We do not accept AGN's revised proposal annual reference tariff variation mechanism. Specifically, we do not accept AGN's proposed changes to our draft decision adjustment factor formula to accommodate price variations in unaccounted for gas.<sup>2</sup>

We also note that our draft decision contained errors in this particular formula. Our final decision is to apply an amended version of our draft decision annual reference tariff variation mechanism which corrects these errors.<sup>3</sup>

Our final decision is that amendments to the following elements of the reference tariff variation mechanism are preferable to AGN's proposal and comply with the National Gas Law (NGL) and National Gas Rules (NGR):

- Amend clause 4.4.2 in the AGN access arrangement to be consistent with Figure 11.7 in Attachment 11 of our Final Decision.

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<sup>1</sup> AER, *Approved Access Arrangement for AGN's South Australian Gas Distribution Network 1 July 2016-30 June 2021*, May 2016.

<sup>2</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 4–5.

<sup>3</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 6, 13–22.

- Amend clause 4.6.1 in the AGN access arrangement to reflect our final decision that the tariff variation notification will be submitted 50 business days before the date of implementation.
- Amend Box 4 in Annexure E in the AGN access arrangement to be consistent with Figure 11.5 in Attachment 11 of our Final Decision.
- Amend Box 5 in Annexure E in the AGN access arrangement to be consistent with Figure 11.6 in Attachment 11 of our Final Decision.

Our reasons for this decision are set out in section 11.4.1.

Our final decision has also reinstated indices in Boxes 1, 2, 4 and 5 in Annexure E which were inadvertently omitted from AGN's revised access arrangement.

### 11.1.2 Cost pass through events

We accept all but one of AGN's proposed cost pass through events.

Our final decision is that the following cost pass through events will be included in AGN's reference tariff variation mechanism for the 2016–21 access arrangement period:

**Table 11.1 Approved pass through events**

Cost pass through event	Definition
Regulatory change event	<p>'Regulatory Change Event' means:</p> <p>A change in a regulatory obligation or requirement that:</p> <ul style="list-style-type: none"> <li>(a) falls within no other category of pass through event; and</li> <li>(b) occurs during the course of an access arrangement period; and</li> <li>(c) substantially affects the manner in which AGN provides Reference Services; and</li> <li>(d) materially increases or materially decreases the costs of providing those services.</li> </ul>
Service standard event	<p>'Service Standard Event' means:</p> <p>A legislative or administrative act or decision that:</p> <ul style="list-style-type: none"> <li>(a) has the effect of: <ul style="list-style-type: none"> <li>(i) substantially varying, during the course of an access arrangement period, the manner in which AGN is required to provide the Reference Services; or</li> <li>(ii) imposing, removing or varying, during the course of an access arrangement period, minimum service standards applicable to the Reference Services; or</li> <li>(iii) altering, during the course of an access arrangement period, the nature or scope of the Reference Services, provided by AGN; and</li> </ul> </li> <li>(b) materially increases or materially decreases the costs to AGN of providing the Reference Services.</li> </ul>
Tax change event	<p>'Tax Change Event' means:</p> <p>A tax change event occurs if any of the following occurs during the course of an access arrangement period for AGN:</p> <ul style="list-style-type: none"> <li>(a) a change in a Relevant Tax, in the application or official interpretation of a Relevant Tax, in the rate of a Relevant Tax, or in the way a Relevant Tax is</li> </ul>



Cost pass through event	Definition
	<p>calculated;</p> <p>(b) the removal of a Relevant Tax;</p> <p>(c) the imposition of a Relevant Tax; and</p> <p>in consequence, the costs to AGN of providing prescribed Reference Services are materially increased or decreased.</p>
Terrorism event	<p>Terrorism event means an act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which:</p> <p>(a) from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear) and</p> <p>(b) increases the costs to AGN of providing the Reference Service.</p> <p>Note for the avoidance of doubt, in making a determination on a Terrorism Event, the AER will have regard to, amongst other things:</p> <p>(i) whether AGN has insurance against the event;</p> <p>(ii) the level of insurance that an efficient and prudent service provider would obtain in respect of the event; and</p> <p>(iii) whether a declaration has been made by a relevant government authority that an act of terrorism has occurred.</p>
Network user failure event	<p>'Network User Failure Event' means:</p> <p>The occurrence of an event where:</p> <p>(a) a Retailer of Last Resort (RoLR) Event as defined in section 122 of the National Energy Retail Law has occurred; and</p> <p>(b) AGN incurs costs in responding to the RoLR event in accordance with its obligations under the NERL, NERR, NGL or NGR (including Guidelines and procedures that are binding under those instruments), and</p> <p>(c) the costs are not recoverable by AGN under other provisions of the NERL, NERR, NGL or NGR as in force at the time of the event, including but not limited to rule 531 of the NGR and other pass through events in this Access Arrangement.</p> <p>Note for the avoidance of doubt, in making a determination on a Network User Failure Event, the AER will have regard to, amongst other things, the extent to which AGN has taken steps to minimise the costs associated with its responsibilities in a RoLR Event, both prior to, and after, the RoLR Event was triggered.</p>
Insurer credit risk event	<p>'Insurer Credit Risk Event' means:</p> <p>An event where:</p> <p>(a) an insurer of AGN becomes insolvent; and</p> <p>(b) as a result, in respect of an existing, or potential, claim for a risk that was insured by the insolvent insurer, AGN:</p> <p>(i) is subject to a higher or lower claim limit or a higher or lower deductible than would have otherwise applied under the insolvent insurer's policy; or</p> <p>(ii) incurs additional costs associated with self-funding an insurance claim, which would otherwise have been covered by the insolvent insurer.</p> <p>Note for the avoidance of doubt, in making a determination on an Insurer Credit Risk Event, the AER will have regard to, amongst other things:</p> <p>(a) AGN's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation; and</p>

Cost pass through event	Definition
Insurance cap event	<p>(b) in the event that a claim would have been made after the insurance provider became insolvent, whether AGN had reasonable opportunity to insure the risk with a different insurer.</p> <p>'Insurance Cap Event means an event where:</p> <p>(a) AGN makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy;</p> <p>(b) AGN incurs costs beyond the policy limit; and</p> <p>(c) the costs beyond the policy limit increase the costs to AGN of proving the Reference Services.</p> <p>For this Insurance Cap Event:</p> <p>(d) a relevant insurance policy is an insurance policy held during the Access Arrangement Period or a previous period in which access to the pipeline services was regulated; and</p> <p>(e) AGN will be deemed to have made a claim on a relevant insurance policy if the claim is made by a related party of AGN in relation to any aspect of the Network or AGN's business.</p> <p>Note in making a determination on an Insurance Cap Event, the AER will have regard to, amongst other things:</p> <p>(i) the insurance policy for the event</p> <p>(ii) the level of insurance that an efficient and prudent service provider would obtain in respect of the event, and</p> <p>(iii) any assessment by the AER of AGN's insurance in approving the access arrangement for the South Australian gas distribution network for the relevant period.</p>
Natural disaster event	<p>'Natural Disaster Event' means any natural disaster including but not limited to fire, flood or earthquake that occurs during the Access Arrangement Period that increases the cost to AGN in providing the Reference Services, provided the fire, flood or other event was not a consequence of the acts or omissions of AGN.</p> <p>Note for the avoidance of doubt, in making a determination on a Natural Disaster Event, the AER will have regard to, amongst other things:</p> <p>(i) whether AGN has insurance against the event; and</p> <p>(ii) the level of insurance that an efficient and prudent service provider would obtain in respect of the event.</p>

We have accepted the definitions for these events as put forward in AGN's revised proposal, save for minor changes to the terrorism, insurance cap and natural disaster event definitions which emerged through concurrent regulatory processes and which AGN indicated it supports.<sup>4</sup>

We do not accept AGN's proposed significant extension event.

Our reasons for this final decision are set out in section 11.4.2.

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<sup>4</sup> AGN response to AER information request AGN 049, 23 March 2016.

## 11.2 AGN's revised proposal

Our draft decision indicated the nature of the amendments required to make AGN's proposal acceptable to us.<sup>5</sup> Under the NGR, the amendments made by the service provider must be limited to those necessary to address matters raised in our draft decision unless we approve further amendments.<sup>6</sup> AGN submitted its revised proposal on 6 January 2016.<sup>7</sup>

### 11.2.1 Annual reference tariff variation mechanism

Our draft decision required AGN to revise its proposed access arrangement to:

- Amend the annual haulage reference tariff variation formula (including adding an adjustment factor to accommodate unaccounted for gas price variations and a pass through factor formula), rebalancing control formula and ancillary reference tariff variation formula in clause 4.4 and Annexure E of the access arrangement.<sup>8</sup>
- Amend clause 4.6.1 of its proposed access arrangement to reflect our draft decision that the tariff variation notification will be submitted 50 business days before the date of implementation.<sup>9</sup>

In its revised proposal, AGN accepted our draft decision and amended its access arrangement accordingly.<sup>10</sup> However, AGN also proposed a change to the adjustment factor formula to accommodate price variations in unaccounted for gas. AGN proposed:

- a change in the timing of the true-up of forecast and actual price for unaccounted for gas to year  $t-1$  rather than year  $t-2$  as per our draft decision
- the removal of the forecast quantities from the calculation.<sup>11</sup>

AGN noted that the actual unaccounted for gas price will be known for year  $t-1$  and therefore there was no need to delay this true-up for an additional year. Also, that the price true-up was not dependent on forecast quantities which should be removed.

### 11.2.2 Cost pass through events

Our draft decision required AGN to revise its proposed access arrangement, to:

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<sup>5</sup> NGR, r. 59(2).

<sup>6</sup> NGR, r. 60(2).

<sup>7</sup> NGR, rr. 59(3), 60(1).

<sup>8</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.1).

<sup>9</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.2).

<sup>10</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 2–3.

<sup>11</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 3–5.

- Replace the definitions of the following cost pass through events in clause 4.5 of its access arrangement with those set out in our draft decision: regulatory change event, service standard event, tax change event, terrorism event, insurer credit risk event, insurance cap event.<sup>12</sup>
- Either remove the proposed network user failure event and significant safety event, or replace them with amended definitions.<sup>13</sup>
- Remove the following cost pass through events from its access arrangement: security of supply event, significant extension event.<sup>14</sup>
- Amend clause 4.5 of its proposed access arrangement to add the efficiency of AGN's decisions and actions in relation to an event to the list of matters we must take into account in deciding whether to approve an application for a cost pass through event variation.<sup>15</sup>

In its revised proposal, AGN:

- amended the definitions of the regulatory change event, service standard event, tax change event according to our draft decision
- replaced the definitions of the network user failure event and significant safety event with new definitions consistent with the guidance provided in our draft decision
- modified the definitions of the terrorism event, insurer credit risk event, insurance cap event according to our draft decision, with minor variations
- submitted that a revised version of its significant extension event should be maintained in the event AGN's proposed forecast capex for the Mount Barker extension was not included in our approved total forecast capex.

## 11.3 AER's assessment approach

The reference tariff variation mechanism must be designed to equalise (in terms of present values):<sup>16</sup>

- forecast revenue from reference services over the access arrangement period, and
- the portion of total revenue allocated to reference services for the access arrangement period.

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<sup>12</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.3).

<sup>13</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.3).

<sup>14</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.4).

<sup>15</sup> AER, *Draft decision: Australian Gas Networks Access Arrangement 2016 to 2021, Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 11-38 (Revision 11.5).

<sup>16</sup> NGR, r. 92(2).

It may provide for variation of a reference tariff:<sup>17</sup>

- in accordance with a schedule of fixed tariffs,
- in accordance with a formula set out in the access arrangement,
- as a result of a cost pass through for a defined event, or
- by the combined operation of two or more of these.

A formula for variation of a reference tariff may (for example) provide for variable caps on the revenue to be derived from a particular combination of reference services, a tariff basket price control, a revenue yield control or a combination of all or any of these.<sup>18</sup>

In deciding whether a particular reference tariff variation mechanism is appropriate to a particular access arrangement, the NGR require us to have regard to:<sup>19</sup>

- (a) the need for efficient tariff structures; and
- (b) the possible effects of the reference tariff variation mechanism on administrative costs of the AER, the service provider, and users or potential users; and
- (c) the regulatory arrangements (if any) applicable to the relevant reference services before the commencement of the proposed reference tariff variation mechanism; and
- (d) the desirability of consistency between regulatory arrangements for similar services (both within and beyond the relevant jurisdiction); and
- (e) any other relevant factor.

A reference tariff variation mechanism must give us adequate oversight or powers of approval over variation of the reference tariff.<sup>20</sup>

In deciding whether a particular reference tariff variation mechanism is appropriate to a particular access arrangement, other factors we have regard to include:<sup>21</sup>

- the nature and scope of the reference services to which the reference tariffs are applicable
- how the proposed mechanism compares to that which applied under the current access arrangement, and to those that apply to other network service providers under our recent decisions
- the potential impact of the proposed mechanism on the service provider's incentives under the access arrangement to operate its network—and manage its

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<sup>17</sup> NGR, r. 97(1).

<sup>18</sup> NGR, r. 97(2).

<sup>19</sup> NGR, r. 97(3).

<sup>20</sup> NGR, r. 97(4).

<sup>21</sup> NGR, r. 97(3)(e).

risks—in a manner consistent with the National Gas Objective (NGO) and Revenue and Pricing Principles (RPPs)

- in the case of cost pass through events, the considerations discussed in section 11.3.1 below.

The reference tariff variation mechanism is an area of our decision over which we have full discretion. This means that we may withhold our approval of a proposed reference tariff variation mechanism if—in our opinion—a preferable alternative exists that complies with the applicable requirements of the NGL and is consistent with any applicable criteria prescribed by the NGL.<sup>22</sup>

### 11.3.1 Cost pass through events

Our forecast revenue requirement includes forecasts of the capital and operating expenditure (capex and opex) a service provider will require over the access arrangement period to operate and maintain its network and meet its regulatory obligations (see attachments 6 and 7 to this decision). During the access arrangement period, a service provider can apply to us to pass material changes in its costs arising from pre-defined exogenous events through to customers, in the form of higher or lower reference tariffs. These events are called cost pass through events.

Our decision on the reference tariff variation mechanism for an access arrangement includes decisions on the cost pass through events that will apply during the access arrangement period, how an application to pass through costs will be assessed and how approved amounts will be passed through under the reference tariff variation mechanism.

### Assessment of proposed events

Our decision on the reference tariff variation mechanism includes a decision on the pass through events that are to apply for the access arrangement period.<sup>23</sup>

Our assessment approach is guided by the NGO and the RPPs. These provide that the service provider should be provided with a reasonable opportunity to recover at least the efficient costs incurred in providing services and complying with a regulatory obligation or requirement.<sup>24</sup> They also provide incentives to promote economic efficiency.<sup>25</sup> Together, they promote a balance between the economic costs and risks of the potential for under and over investment by a service provider, to promote efficient investment.<sup>26</sup> In the context of pass through events, we have particular regard to the impact on price, quality, safety, reliability and security of supply that may arise as a

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<sup>22</sup> NGR, rr. 40(3), 92, 97.

<sup>23</sup> NGR, r. 97(1)(c).

<sup>24</sup> NGL, s. 24(2).

<sup>25</sup> NGL, s. 24(3).

<sup>26</sup> NGL, s. 24(6).

result of any change in the efficient operation of, and ability and incentive of, a service provider to invest in its network.<sup>27</sup>

In determining whether we accept a proposed pass through event as part of the reference tariff variation mechanism, we also take into account the following considerations:<sup>28</sup>

- (a) whether the event proposed is an event covered by another pass through event under the access arrangement or the NGR<sup>29</sup>;
- (b) whether the nature or type of event can be clearly identified at the time the access arrangement is approved for the service provider;
- (c) whether a prudent service provider could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event;
- (d) whether the relevant service provider could insure against the event, having regard to:
  - (1) the availability (including the extent of availability in terms of liability limits) of insurance against the event on reasonable commercial terms; or
  - (2) whether the event can be self-insured on the basis that:
    - (i) it is possible to calculate the self-insurance premium; and
    - (ii) the potential cost to the relevant service provider would not have a significant impact on the service provider's ability to provide network services.

These considerations serve the same purpose under the National Electricity Rules (NER), and are referred to in the NER as the nominated pass through event considerations.<sup>30</sup> We consider these considerations are relevant to help determine whether a proposed cost pass through event under an access arrangement is consistent with the NGO.<sup>31</sup> In adding the nominated pass through event considerations to the NER, the Australian Energy Market Commission (AEMC) described their purpose as:

- to incorporate and reflect the essential components of a cost pass through regime. It was intended that in order for appropriate incentives to be maintained, any nominated pass through event should only be accepted when event avoidance, mitigation, commercial insurance and self-insurance are unavailable. That is, a cost

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<sup>27</sup> NGL, s. 23; See also AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 6.

<sup>28</sup> NGR, r. 97(3)(e).

<sup>29</sup> For example, rule 531 of the NGR provides for pass through of unpaid distribution service charges if a retailer insolvency event occurs.

<sup>30</sup> NER, cll. 6.5.10(b), 6A.6.9(b); NER Chapter 10: Glossary, definition of 'nominated pass through event considerations'.

<sup>31</sup> NGR, r. 100(1).

pass through event is the least efficient option for managing the risk of unforeseen events.<sup>32</sup>

- that a pass through event should only be accepted when it is the least inefficient option and event avoidance, mitigation, commercial insurance and self-insurance are found to be inappropriate. That is, it is included after ascertaining the most efficient allocation of risks between a service provider and end customers.<sup>33</sup>

In turn, this limits the erosion of incentives on service providers to use market based mechanisms to mitigate the cost impacts that would arise.<sup>34</sup> This promotes the efficient investment in, and efficient operation and use of, network services for the long term interests of consumers with respect to price.<sup>35</sup>

As a matter of good regulatory practice, one additional matter<sup>36</sup> we take into account is consistency in our approach to assessing pass through events across our electricity determinations and gas access arrangements.<sup>37</sup>

Another additional matter we take into account<sup>38</sup> is how an application to pass through costs after an event occurs will be assessed, and the workability of the nominated pass through event in the context of the reference tariff variation mechanism. This is discussed below.

## Assessment of pass through applications

Our decision on the reference tariff variation mechanism also includes a decision on the provisions of the access arrangement that set out how an application to pass through costs after a pass through event occurs will be made.

Typically, a pass through event is triggered when a defined event occurs, and entails the service provider incurring materially higher (or lower) costs than it would have occurred but for that event. When the change in costs is positive (that is, costs increase), the service provider may seek our approval to pass through an increase in the costs that it has incurred and is likely to incur over the access arrangement period to its users. When the change in costs is negative (and costs decrease), the service provider must provide us with a statement of the amount to be passed through back to customers, which leads to lower charges.

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<sup>32</sup> AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 19.

<sup>33</sup> AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 20.

<sup>34</sup> NGL, s. 24(3); AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 8.

<sup>35</sup> NGL, s. 23; AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 8.

<sup>36</sup> NGR, r. 97(3)(e).

<sup>37</sup> AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 18.

<sup>38</sup> NGR, r. 97(3)(e).



The pass through mechanism should not allow a service provider to pass through any change in its actual costs resulting from an event. As the AEMC has noted in the context of the NER pass through provisions:<sup>39</sup>

The natural incentive properties of cost pass throughs are very weak. There is no direct financial benefit to the [service provider] from out performing in relation to those events that are covered by cost pass throughs, unlike the incentive arrangements for operating expenditure captured in the building blocks.

...the NER allow the AER to take into account the efficiency of the provider's decisions and actions in relation to the risk, as an attempt to impose some incentives to not overspend in relation to cost pass throughs. However, the incentives to find cost efficiencies on matters that can be claimed as cost pass through events are very poor.

We manage these incentives in our decisions in a number of ways.

First, a materiality threshold is typically applied so that an application to pass through costs (whether positive or negative) can only be made where the total change in costs resulting from the event is material. We consider the threshold prescribed in the NER is a suitable benchmark for a materiality threshold for cost pass through events under the NGR. This threshold requires the change in costs to be more than one per cent of the forecast revenue requirement for the service provider for the relevant regulatory year.<sup>40</sup>

Second, where a pass through event has occurred the access arrangement should set out factors relevant to our determination on the amount to be passed through. Again, we consider the relevant factors in the NER are also useful for the pass through mechanism under the NGR. These include:<sup>41</sup>

- the information provided to us by the service provider
- the increase in the costs of providing reference services that the service provider has incurred and is likely to incur (or the costs in the provision of reference services the service provider has saved and is likely to save) until:
  - the end of the access arrangement period in which the event occurred; or
  - if the access arrangement for the access arrangement period following that in which the event occurred does not make any allowance for the recovery of that increase in costs (or the pass through of those cost savings) – the end of the access arrangement period following that in which the event occurred;
- for an increase in costs, the efficiency of the service provider's decisions and actions in relation to the risk of the event, including whether the service provider

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<sup>39</sup> AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 3.

<sup>40</sup> NER, Chapter 10: Glossary, definition of 'materially'.

<sup>41</sup> NER, cl. 6A.7.3(j) / 6.6.1(j).

has failed to take any action that could reasonably be taken to reduce the magnitude of the pass through amount in respect of that event and whether the service provider has taken or omitted to take any action where such action or omission has increased the magnitude of the amount in respect of that event;

- the time cost of money based on the allowed rate of return for the service provider for the regulatory control period in which the pass through event occurred;
- the need to ensure that the service provider only recovers any actual or likely increment in costs to the extent that such increment is solely as a consequence of a pass through event;
- whether the costs of the pass through event have already been factored into the calculation of the service forecast revenue requirement for the access arrangement period in which the pass through event occurred or will be factored into the calculation of the provider's forecast revenue requirement for a subsequent access arrangement period;
- the extent to which the costs that the service provider has incurred and is likely to incur are the subject of a previous determination we have made on a cost pass through application; and
- any other factors we consider relevant.

What other factors may be relevant to a particular pass through event must—to some extent—be determined on a case by case basis. However, for some events there may be additional factors that can be identified in advance. We include these factors in the approved definitions of those events as part of the access arrangement. This is good regulatory practice for two reasons:

1. It provides transparency and predictability to service providers and users, and allows service providers to address these factors directly in cost pass through applications.
2. It allows us, service providers and users to consider and engage on how a pass through event will operate during the regulatory control period, and therefore to better take into account the considerations discussed above when defining an approved event.

### 11.3.2 Interrelationships

Tariffs are derived from the total revenue requirement *after* consideration of demand for each tariff category. AGN operates under a weighted average tariff cap. This means the tariffs we determine (including the means of varying the tariffs from year to year) are the binding constraint across the 2016–21 access arrangement period, rather than the total revenue requirement set in our decision.<sup>42</sup> Except as provided by a reference

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<sup>42</sup> Where actual demand across the 2016–21 access arrangement period varies from the demand forecast in the access arrangement, AGN's actual revenue will vary from the revenue allowance determined in our decision. In

tariff variation mechanism, a reference tariff is not to vary during the course of an access arrangement period.<sup>43</sup>

In assessing and approving a reference tariff variation mechanism, we consider the potential impact of the proposed mechanism on the service provider's incentives under the access arrangement to operate its network—and manage its risks—in a manner consistent with the NGO and RPPs.<sup>44</sup>

For example, our final decision requires/approves an adjustment factor to accommodate changes in the price AGN must pay to meet its unaccounted for gas (UAFG) obligations. This addresses the inherent uncertainty in the forecast of UAFG costs that has informed our decision on total forecast opex. The inclusion of the UAFG adjustment factor in the access arrangement requires a category-specific forecast of UAFG costs for this purpose, which sits outside our foundation 'base-step-trend' approach to forecast opex.<sup>45</sup> It also requires exclusion of these costs from the opex efficiency carryover mechanism.<sup>46</sup>

The adjustment factor is specific to the price of UAFG, and not its total cost to AGN (price multiplied by volume). This maintains the incentive on AGN to reduce the volume of UAFG in its network. Our total forecast capex makes provision for maintenance and replacement expenditure for this purpose.<sup>47</sup>

The pass through component of the reference tariff variation mechanism is also interrelated with other parts of this decision, in particular with the forecast opex<sup>48</sup> and capex<sup>49</sup> and rate of return<sup>50</sup> included in our forecast revenue requirement. These interrelationships require us to balance the incentives in the various parts of our decision.

Pass through events are one way, but not the only way, in which service providers can manage their risks under an access arrangement. For systemic risks, service providers are compensated through the allowed rate of return. Service providers also face business-specific, or residual, risks. Service providers are compensated for the prudent and efficient management of these risks through the forecast opex and capex we include in our forecast revenue requirement for strategies such as:

- prevention (avoiding the risk)

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general, if actual demand is above forecast demand, AGN's actual revenue will be above forecast revenue, and vice versa.

<sup>43</sup> NGR, r. 97(5).

<sup>44</sup> NGL, ss. 23, 24.

<sup>45</sup> See Attachment 7 (Operating expenditure) to this final decision.

<sup>46</sup> AER, *Approved Access Arrangement for AGN's South Australian Gas Distribution Network 1 July 2016–30 June 2021*, May 2016, cl. 5.1(h); See Attachment 9 (Efficiency carryover mechanism) to this final decision.

<sup>47</sup> See Attachment 6 (Capital expenditure) to this final decision.

<sup>48</sup> See Attachment 7 (Operating expenditure) to this final decision.

<sup>49</sup> See Attachment 6 (Capital expenditure) to this final decision.

<sup>50</sup> See Attachment 3 (Rate of return) to this final decision.

- mitigation (reducing the probability and impact of the risk)
- insurance (transferring the risk to another party)
- self-insurance (putting aside funds to manage the likely costs associated with a risk event).

An efficient business will manage its risk by employing the most cost effective combination of these strategies. In order to maintain appropriate incentives under an access arrangement, we only accept a service provider's nominated pass through events where we are satisfied that event avoidance, mitigation, commercial insurance and self-insurance under approved forecasts of prudent and efficient opex and capex are either unavailable or inappropriate.<sup>51</sup>

For smaller projects a service provider should generally utilise its existing expenditure allowance or reprioritise its work program rather than seeking approval of a pass through. This is reflected in the materiality threshold that applies to applications for cost pass through under the approved access arrangement.<sup>52</sup>

Cost pass through amounts approved in an access arrangement period are added to forecast opex for the purpose of calculating efficiency carryover amounts under the efficiency carryover mechanism in the approved access arrangement.<sup>53</sup>

## 11.4 Reasons for final decision

### 11.4.1 Annual reference tariff variation mechanism

In this section we set out the reasons for our final decision on AGN's annual reference tariff variation mechanism.

#### Revenue equalisation

The annual reference tariff variation mechanism must be designed to equalise (in present value terms) the building block costs associated with reference services and the portion of total revenue allocated to reference services.

We consider our final decision annual reference tariff variation formula complies with rule 92(2) regarding revenue equalisation. As noted, we do not accept AGN's revised proposal annual reference tariff variation formula due to the proposed changes to the

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<sup>51</sup> This is consistent with the AEMC's conclusions in its review of the NER pass through arrangements. See: AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, pp. 19–20.

<sup>52</sup> AER, *Approved Access Arrangement for AGN's South Australian Gas Distribution Network 1 July 2016–30 June 2021*, May 2016, cl. 4.5, Definition of 'materiality threshold'.

<sup>53</sup> AER, *Approved Access Arrangement, Access Arrangement for AGN's South Australian Gas Distribution Network 1 July 2016–30 June 2021*, May 2016, cl. 5.1(i); See Attachment 9 (Efficiency carryover mechanism) to this final decision.

adjustment factor to accommodate unaccounted for gas price variations. Our final decision annual reference tariff variation formula is set out below.

Further, the quantum of AGN's revised proposal reference tariffs has been revised to reflect our final decision total revenue requirement and forecast demand. The total revenue requirement and forecast demand are outlined in their respective sections of this final decision.

## Reference tariff variation mechanism process

AGN has accepted our draft decision reference tariff variation mechanism process.<sup>54</sup>

Our draft decision accepted AGN's proposal to apply the weighted average price cap to the overall revenue from haulage reference services, rather than applying to each tariff class individually as is the current practice.

In response to our draft decision, the Energy Consumers Coalition of South Australia reasserted its view that a revenue cap tariff variation mechanism be favoured over a weighted average price cap even though it would transfer consumption risk to consumers.<sup>55</sup> As discussed in our draft decision, we consider consumption risk should be managed by AGN under a weighted average price cap and not customers under a revenue cap.<sup>56</sup>

The Consumers Coalition also reasserted its concerns that AGN has the potential to increase its allowed revenue through 'bias' tariff development under the weighted average price cap compared to a revenue cap.<sup>57</sup> However, as discussed in our draft decision, we consider the potential for this 'bias' is significantly reduced through our thorough analysis of AGN's proposed opex, capex, rate of return and tariff structure.<sup>58</sup>

Therefore our final decision maintains our draft decision considerations and the application of weighted average price cap tariff variation mechanism. As noted in our draft decision, all gas distributors in the national gas market are on weighted average price caps. We wish to ensure consistency in regulatory approach.

While our draft decision accepted AGN's proposed application of the weighted average price cap, it did not accept AGN's proposal to reduce the time of submitting its annual

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<sup>54</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 2–3.

<sup>55</sup> Energy Consumers Coalition of South Australia, *A response to the Australian Energy Regulator draft decision on Australian Gas Networks AA2016 revenue reset*, February 2016, p. 42.

<sup>56</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 14.

<sup>57</sup> Energy Consumers Coalition of South Australia, *A response to the Australian Energy Regulator draft decision on Australian Gas Networks AA2016 revenue reset*, February 2016, p. 42.

<sup>58</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 14.

tariff variation proposal from at least 50 business days to 40 business days before the tariffs' commencement.<sup>59</sup>

AGN initially proposed the reduced timeline since the March quarter consumer price index (CPI)—to apply in the reference tariff variation mechanism—is not released by the Australian Bureau of Statistics 50 business days prior to the tariffs commencement. However, our draft decision changed the timing of the CPI from the March quarter to the previous December quarter.<sup>60</sup> This earlier timing of the CPI negated AGN's need to change the timing of submitting its annual tariff variation proposal. Our final decision CPI approach is consistent with that applied by the other gas distribution networks.

While AGN's revised proposal stated it accepted the draft decision timing for AGN to submit its annual tariff variation proposal at least 50 business days before the tariffs commencement<sup>61</sup>, it erroneously maintained its initial proposal of at least 40 business days.<sup>62</sup> We raised this issue with AGN who noted this was an error.<sup>63</sup> We have corrected this error in our final decision access arrangement for AGN.

## Annual haulage reference tariff variation formula

Our draft decision made two changes to AGN's proposed annual haulage weighted average price cap formula to include adjustment factors for:

- an approved cost pass through event
- unaccounted for gas price variations.<sup>64</sup>

AGN largely accepted our draft decision but proposed changes to the method to calculate the adjustment factor for unaccounted for gas price variations.<sup>65</sup> It proposed:

- a change in the timing of the true-up of forecast and actual price for unaccounted for gas to year  $t-1$  rather than year  $t-2$  as per our draft decision
- the removal of the forecast quantities from the calculation.<sup>66</sup>

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<sup>59</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 14–15.

<sup>60</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 14–15.

<sup>61</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 2–3.

<sup>62</sup> Australian Gas Networks, *Access arrangement for AGN's South Australian Gas Distribution Network 1 July 2016–30 June 2021*, January 2016, clause 4.6.1.

<sup>63</sup> AGN response to information request AER AGN 051: Tariff variation mechanism, 4 April 2016.

<sup>64</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 15–21.

<sup>65</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 2–3.

<sup>66</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 3–5.

AGN noted that the actual unaccounted for gas price will be known for year t–1 and therefore there was no need to delay this true-up for an additional year. Also, that the price true-up was not dependent on forecast quantities which should be removed.

We do not accept AGN's proposed changes. Our final decision applies our draft decision timing of the true-up of forecast and actual price of year t–2 for consistency and transparency.<sup>67</sup>

We note that automatic adjustment factors in other gas distribution networks' reference tariff variation mechanisms all apply a method using year t–2 as the basis. We consider consistent approaches across gas distribution networks and jurisdictions is desirable as it enables regulators, retailers, policy makers and end users greater transparency in the pricing effects of these adjustment factors.<sup>68</sup>

Our final decision also maintains the use of forecast quantities in the method to calculate the adjustment factor to accommodate unaccounted for gas price variations for transparency. Our final decision revenue requirement for forecast unaccounted for gas is based on the forecast price and quantities. By maintaining the forecast quantities in the method to calculate the true-up allows transparency in the annual movement of both price and revenues. We consider transparency is desirable.

Our final decision has updated the unaccounted for gas forecast quantities from our draft decision (Table 11.2). This update reflects our final decision on AGN's unaccounted for gas forecast (see attachment 7—operating expenditure) and mains replacement program (see attachment 6—capital expenditure). The South Australian Council of Social Service supports this update for our final decision.<sup>69</sup>

### ***Draft decision errors in the adjustment factor to accommodate unaccounted for gas price variations***

Our final decision has also corrected for errors in our draft decision adjustment factor formula to accommodate price variations in unaccounted for gas.

First, we note our draft decision contained an error in the method to calculate the difference between the actual and forecast unaccounted for gas prices. In calculating this difference, our draft decision incorrectly divided the actual price and forecast quantities by the forecast price and forecast quantities (Figure 11.1). The correct application should have been a subtraction of the two values (Figure 11.2).<sup>70</sup> This error has been corrected in our final decision.

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<sup>67</sup> NGR, r. 97(3)(d).

<sup>68</sup> NGR, r. 97(3)(d).

<sup>69</sup> South Australian Council of Social Service, *Submission to the Australian Energy Regulator in response to Australian Gas Network's revise regulatory proposal for the 2016–2021 access arrangements*, February 2016, p. 9.

<sup>70</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 15–21.

**Figure 11.1 Draft decision method to calculate the difference between actual and forecast unaccounted for gas prices**

$$DP_{t-2} = \frac{UP_{t-2}FQ_{t-2}}{FP_{t-2}FQ_{t-2}}$$

**Figure 11.2 Final decision method to calculate the difference between actual and forecast unaccounted for gas prices**

$$DP_{t-2} = (UP_{t-2} \times FQ_{t-2}) - (FP_{t-2} \times FQ_{t-2})$$

We note the intent of this adjustment factor is to adjust AGN's revenues for the difference between the actual unaccounted for gas prices and the forecast prices used to develop our final decision revenue requirement. In application, it is expected that a lower actual price than the forecast price would see a reduction to AGN's revenues. Similarly, an increase in revenues would occur when the actual price is higher than the forecast price. However, our draft decision method—which applied a division of values instead of a subtraction of values—would see AGN's revenues increase in both instances. Therefore, our final decision has corrected for this error in our draft decision.

Second, we note our draft decision applied incorrect assumptions in the net present value calculations for this adjustment. As the true-up of forecast and actual price for unaccounted for gas is calculated in year  $t-2$ <sup>71</sup>, two years of escalation needs to be applied to bring it to net present terms for year  $t$  to adjust AGN's forthcoming revenues. Each year of escalation should apply the relevant real vanilla weighted average cost of capital. That is, the relevant weighted average cost of capital to escalate from year  $t-2$  to year  $t-1$  ( $realWACC_{t-1}$ ) and another to escalate from year  $t-1$  to year  $t$  ( $realWACC_t$ ). However, our draft decision incorrectly applied the real weighted average cost of capital for year  $t$  ( $realWACC_t$ ) twice for these two years of escalation.<sup>72</sup> Our final decision corrects for this error.

Our final decision adjustment factor formula to accommodate unaccounted for gas price variations is set out in Figure 11.5. Our final decision annual haulage reference tariff variation formula and rebalancing control formula are set out in Figure 11.3 and Figure 11.4 respectively.

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<sup>71</sup> Year  $t$  represents the forthcoming regulatory year. Therefore, year  $t-2$  and year  $t-1$  are the two regulatory years prior to year  $t$ . By way of example, if year  $t$  is financial year 2017–18 then year  $t-2$  is financial year 2015–16 and year  $t-1$  is financial year 2016–17.

<sup>72</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, pp. 18–20, Figure 11.3.



**Figure 11.3 Annual haulage reference tariff variation formula**

$$(1 + CPI_t)(1 - X_t)(1 + U_t)(1 + PT_t) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}} \quad i = 1, \dots, n$$

where:

$CPI_t$  is the annual percentage change in the Australian Bureau of Statistics (ABS) CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year  $t-2$  to the December quarter in year  $t-1$ , calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-1$

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-2$

minus one.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

$t$  is the financial year for which tariffs are being set.

$X_t$  is the X factor for each financial year of the 2016–21 access arrangement period as determined in the post-tax revenue model (PTRM) as approved in the AER's final decision, and annually revised for the return on debt update calculated for the relevant financial year during the access arrangement period in accordance with that approved in the AER's final decision.

$U_t$  is the adjustment factor to accommodate unaccounted for gas price variations as outlined below

$PT_t$  is the cost pass through factor as outlined below

$n$  is the number of different reference tariffs

$m$  is the different components, elements or variables ("components") comprised within a reference tariff

$p_t^{ij}$  is the proposed component  $j$  of reference tariff  $i$  in year  $t$

$p_{t-1}^{ij}$  is the prevailing component  $j$  of reference tariff  $i$  in year  $t-1$

$q_{t-2}^{ij}$  is the audited quantity of component  $j$  of reference tariff  $i$  that was sold in year  $t-2$  (expressed in the units in which that component is expressed (e.g. GJ)).

AGN's annual haulage reference tariff variation formula is subject to the rebalancing formula set out in Figure 11.4.

**Figure 11.4 Rebalancing control formula**

$$(1 + CPI_t)(1 - X_t)(1 + U_t)(1 + PT_t)(1 + 0.02) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}} \quad i = 1, \dots, n$$

where:

$CPI_t$  is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year  $t-2$  to the December quarter in year  $t-1$ , calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-1$

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-2$

minus one.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

$t$  is the financial year for which tariffs are being set.

$X_t$  is the X factor for each financial year of the 2016–21 access arrangement period as determined in the PTRM as approved in the AER's final decision, and annually revised for the return on debt update calculated for the relevant financial year during the access arrangement period in accordance with that approved in the AER's final decision

$U_t$  is the adjustment factor to accommodate unaccounted for gas price variations as outlined below

$PT_t$  is the cost pass through factor as outlined below

$n$  is the number of different reference tariffs in each tariff class

$m$  is the different components, elements or variables ("components") comprised within a reference tariff

$p_t^{ij}$  is the proposed component  $j$  of reference tariff  $i$  in year  $t$

$p_{t-1}^{ij}$  is the prevailing component  $j$  of reference tariff  $i$  in year  $t-1$

$q_{t-2}^{ij}$  is the audited quantity of component  $j$  of reference tariff  $i$  that was sold in year  $t-2$  (expressed in the units in which that component is expressed (e.g. GJ)).

## Adjustment factor to accommodate unaccounted for gas price variations

Included in the haulage reference tariff variation mechanism formula is an adjustment factor to accommodate price variations in unaccounted for gas. The formula for this adjustment factor is set out in Figure 11.5. As noted, we have not accepted AGN's revised proposal to true-up the forecast and actual price for unaccounted for gas in year  $t-1$  rather than the year  $t-2$ .<sup>73</sup> Our final decision formula has also corrected for errors in our draft decision.

### Figure 11.5 Adjustment factor formula to accommodate price variations in unaccounted for gas

$$U_t = \frac{(1+U'_t)}{(1+U'_{t-1})} - 1$$

where:

$U'_{t-1}$  is:

- (a) zero when financial year  $t-1$  refers to financial year 2016–17
- (b) the value of  $U'_t$  determined in the financial year  $t-1$  for all other financial years in the access arrangement period

and

$$U'_t = \frac{DP_{t-2} \times (1 + \text{realWACC}_t) \times (1 + \text{realWACC}_{t-1}) \times (1 + \text{CPI}_{t-1})}{(1 - X_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}$$

where:

$t$  is the financial year for which tariffs are being set.

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<sup>73</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, pp. 3–5.

$DP_{t-2}$  is the difference between the actual unaccounted for gas price and the forecast unaccounted for gas price calculated as:

$$DP_{t-2} = (UP_{t-2} \times FQ_{t-2}) - (FP_{t-2} \times FQ_{t-2})$$

where:

$UP_{t-2}$  is the actual price for unaccounted for gas as calculated as the sum of retail gas prices for wholesale, maximum daily quantity (MDQ) and transmission gas in financial year t-2<sup>74</sup>

$FP_{t-2}$  is the price used to forecast the unaccounted for gas allowance in financial year t-2 and is as set out in Table 11.2

$FQ_{t-2}$  is the quantity used to forecast the unaccounted for gas allowance in financial year t-2 and is as set out in Table 11.2

**Table 11.2 Forecast price and quantities used to determine the unaccounted for gas allowance in AGN's allowed revenues (\$2014–15)**

	2016–17	2017–18	2018–19	2019–20	2020–21
Forecast price for unaccounted for gas (FP) \$/GJ	11.10	11.10	11.10	11.10	11.10
Forecast quantity of unaccounted for gas (FQ)	1177	1148	1118	1080	1029

Source: AER analysis.

$CPI_t$  is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year t-2 to the December quarter in year t-1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year t-1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year t-2

<sup>74</sup> The wholesale gas price is the market price of gas realised by the supplier to produce and deliver gas into the transmission pipeline. This is the price for flat load gas production. The MDQ price is the cost of production to deliver maximum daily supply capacity to meet peak customer demand during the winter heating season. The transmission price is the cost of transporting gas along the transmission pipeline from the supply source to the distribution network. This includes base load and an additional load factor for maximum daily quantity MDQ capacity allowance.

minus one.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index

$CPI_{t-1}$  is the value of  $CPI_t$  determined in financial year t-1

$realWACC_t$  is the real vanilla weighted average cost of capital as set out in this final decision and updated annually within the PTRM

$realWACC_{t-1}$  is the real vanilla weighted average cost of capital as determined in financial year t-1

$X_t$  is the X factor for each financial year of the 2016–21 access arrangement period as determined in the PTRM as approved in the AER's final decision, and annually revised for the return on debt update calculated for the relevant financial year during the access arrangement period in accordance with that approved in the AER's final decision

$n$  is the number of different reference tariffs in each tariff class

$m$  is the different components, elements or variables ("components") comprised within a reference tariff

$p_{t-1}^{ij}$  is the prevailing component  $j$  of reference tariff  $i$  in year t-1

$q_{t-2}^{ij}$  is the audited quantity of component  $j$  of reference tariff  $i$  that was sold in year t-2 (expressed in the units in which that component is expressed (e.g. GJ)).

## Pass through factor formula

The haulage reference tariff variation mechanism formula includes a pass through factor to accommodate reference tariff adjustments on account of approved cost pass through events. This approach enables a simple and transparent method for cost recovery and pass through to customers.

We note our draft decision contained an error in the definitions of pass through factor formula terms. Our draft decision incorrectly stated that:

$PT_t$  is:

- (a) zero when financial year t-1 refers to financial year 2016–17

- (b) the value of  $PT'_t$ , determined in the financial year t-1 for all other financial years in the access arrangement period.<sup>75</sup>

We note this is the definition of  $PT'_{t-1}$  and not  $PT_t$ , as stated in our draft decision. Our final decision has corrected for this error.

The final decision pass through adjustment factor formula is set out in Figure 11.6.

**Figure 11.6 Pass through adjustment factor formula**

$$PT_t = \frac{(1 + PT'_t)}{(1 + PT'_{t-1})} - 1$$

where:

$PT'_{t-1}$  is:

- (a) zero when financial year t-1 refers to financial year 2016-17
- (b) the value of  $PT'_t$ , determined in the financial year t-1 for all other financial years in the access arrangement period

and

$$PT'_t = \frac{AP_t}{(1 + CPI_t)(1 - X_t)(1 + U_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}$$

where

$t$  is the financial year for which tariffs are being set.

$AP_t$  is:

- (a) any determined pass through amount that the AER approves in whole or part in financial year t; and/or
- (b) any pass through amounts arising from pass through events (as that term is defined in the access arrangement applying to AGN in the immediately prior access arrangement period) occurring in the 2011-16 access arrangement period that AGN proposed to pass through in whole or in part in financial year t,

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<sup>75</sup> AER, *Draft decision: Australian gas networks access arrangement: Attachment 11 – Reference tariff variation mechanism*, November 2015, p. 20, Figure 11.4.

that includes an amount to reflect the time value of money between incurring the costs and recovering the costs, and excludes any amounts already passed through in reference tariffs.

$CPI_t$  is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year  $t-2$  to the December quarter in year  $t-1$ , calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-1$

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year  $t-2$

minus one.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

$X_t$  is the X factor for each financial year of the 2016–21 access arrangement period as determined in the PTRM as approved in the AER's final decision, and annually revised for the return on debt update calculated for the relevant financial year during the access arrangement period in accordance with that approved in the AER's final decision

$U_t$  is the adjustment factor to accommodate price variations in unaccounted for gas as outlined above

$n$  is the number of different reference tariffs in each tariff class

$m$  is the different components, elements or variables ("components") comprised within a reference tariff

$p_{t-1}^{ij}$  is the prevailing component  $j$  of reference tariff  $i$  in year  $t-1$

$q_{t-2}^{ij}$  is the audited quantity of component  $j$  of reference tariff  $i$  that was sold in year  $t-2$  (expressed in the units in which that component is expressed (e.g. GJ)).

### **Annual ancillary reference tariff variation formula**

Our draft decision accepted AGN's proposed annual ancillary reference tariff variation formula which is consistent with the current access arrangement. However, our draft decision changed the definition of the CPI escalation to be consistent with that applied in the annual haulage reference tariff variation mechanism.

While AGN's revised proposal stated that it accepted this change<sup>76</sup>, it erroneously maintained its initial annual ancillary reference tariff variation formula—including use of the March quarter CPI—in its revised access arrangement.<sup>77</sup> We raised this issue with AGN who noted this was an error.<sup>78</sup> We have corrected this error in our final decision access arrangement for AGN.

Our final decision ancillary reference tariff variation formula is set out in Figure 11.7.

### Figure 11.7 Ancillary reference tariff variation formula

$$ART_t = ART_{t-1} \times (1 + CPI_t)$$

where:

$ART_t$  is the reference tariff that will apply to an ancillary reference service in year t

$ART_{t-1}$  is the reference tariff applicable to an ancillary reference service in year t–1

$CPI_t$  is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year t–2 to the December quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in financial year t–2

minus one.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

$t$  is the financial year for which tariffs are being set.

#### 11.4.2 Cost pass through events

AGN's revised proposal largely incorporates the revisions to AGN's proposed pass through events required in our draft decision. In the sections below, set out our final decision on each of these events.

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<sup>76</sup> AGN, *Revised access arrangement information: Attachment 16.1 – Response to draft decision: Tariff variation mechanisms*, January 2016, p. 3.

<sup>77</sup> Australian Gas Networks, *Access arrangement for AGN's South Australian Gas Distribution Network 1 July 2016–30 June 2021*, January 2016, cl. 4.4.2.

<sup>78</sup> AGN response to information request AER AGN 045: Tariff variation mechanism, 26 February 2016.



AGN's revised proposal also amended its proposed access arrangement to add the efficiency of AGN's decisions and actions in relation to an event to the list of matters we must take into account in deciding whether to approve an application for a cost pass through event variation. We accept this amendment, which was made in accordance with our draft decision.

## **Regulatory Change, Service Standard, Terrorism, Tax Change, Insurer Credit Risk**

In our draft decision we accepted AGN's proposal to include a regulatory change event, service standard event, terrorism event, tax change event and insurer credit risk event in its access arrangement for 2016–21. However, we required revisions to the definitions of each of these events.

AGN's revised proposal incorporates the required revisions to the terrorism event. However, following submissions in concurrent processes, we have removed the word 'materially' in the definition given that any event would be subject to a materiality threshold. AGN advised that it supports this change.<sup>79</sup>

AGN also incorporated the required changes to regulatory change event, service standard event, and the supporting definition of 'relevant tax' to the tax change event. We accept these elements of its revised proposal.

AGN's revised proposal also incorporates—with minor amendments to reflect the format and drafting of its access arrangement as a whole—the revisions our draft decision required to the insurer credit risk event. We accept these amendments, although we have made a modification to insurer credit risk event to remove a redundant word.<sup>80</sup>

## **Insurance cap event**

AGN's revised proposal incorporates with minor amendments our required revision to the definition of insurance cap event. The definition in AGN's revised proposal provides that the relevant policy limit for this insurance cap event is the greater of:

- (a) the regulated entity's actual policy level, and
- (b) the policy limit that is explicitly or implicitly commensurate with the allowance for insurance premiums that is included in the forecast operating expenditure allowance approved in the AER's final decision for the Fourth Access Arrangement Period.

Our objective was to avoid a perverse incentive for a service provider to reduce its expenditure on insurance below prudent efficient levels, thereby reducing its operating

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<sup>79</sup> AGN, *response to information request AER 049*, 23 March 2016.

<sup>80</sup> Paragraph (a) of our definition now commences 'an insurer of the service provider becomes insolvent' instead of 'a nominated insurer of the service provider becomes insolvent'. The word 'nominated' was redundant.

expenditure relative to the approved forecast by transferring insurable risks to its customers, instead of through genuine efficiencies.

We maintain that the insurance cap event should operate so as to dissuade a regulated firm from reducing its cover below prudent and efficient levels. However, we have considered recent submissions in other regulatory processes,<sup>81</sup> and we accept that a firm's approved operating expenditure allowance may not imply a particular level of insurance cover and have removed this limb from the definition. However, it remains appropriate that we take into account where relevant, any assessments and analysis we have undertaken in relation to insurance when approving the service provider's access arrangement. We have added a note to this effect stating that, when making a determination on a pass through application, we will have regard to:

- (iii) any assessment by the AER of AGN's insurance in approving the access arrangement for the relevant period.

We consulted AGN on the final form of the definition and it advised that it supports this amendment.<sup>82</sup>

## Network user failure event and natural disaster event

Our draft decision did not accept AGN's proposed network user failure event and significant safety event, but in each case directed AGN to comparable events we had approved in other decisions should it wish to pursue these. AGN's revised proposal incorporated our suggested, alternative events.

We accept the network user failure event in AGN's revised proposal, which is consistent with the guidance provided in our draft decision.

AGN's revised proposal also incorporated—in place of the 'significant safety event' in its original proposal—a 'natural disaster event' consistent with the guidance provided in our draft decision. While not an issue raised in AGN's revised proposal, in our final decisions on concurrent proposals for other service providers, we have:

- removed the adjective 'major' from the definition of the natural disaster event that AGN has adopted to avoid perceived confusion with the materiality threshold that applies to all pass through events under the access arrangement.
- deleted reference to whether a government authority has made a natural disaster declaration, following submissions that this may not be an appropriate matter for us to consider in the context of a claim under the natural disaster pass through event.

AGN has advised it supports these changes to the natural disaster event definition.<sup>83</sup>

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<sup>81</sup> ActewAGL Distribution, *Response to AER's draft determination, 2016-21 ACT, Queanbeyan and Palerang Gas Network Access Arrangement*, January 2016, p. 125; CitiPower, *Revised Regulatory Proposal 2016-2020* pp. 420–421; PowerCor, *Revised Regulatory Proposal 2016-2020*, pp. 412–413.

<sup>82</sup> AGN, *response to information request AER 049*, 23 March 2016

<sup>83</sup> AGN, *response to information request AGN 049*, 23 March 2016.

## Security of supply event, significant extension event

Lastly, our draft decision did not accept AGN's proposed security of supply event and significant extension event. AGN's revised proposal does not include these events.

However, AGN conditionally proposed an amended version of its significant extension event should our final decision not include capex for the proposed Mount Barker Extension:

'Significant extension event' means:

Approval by AGN's Board to proceed with a project to supply gas to the area of Mount Barker, where the capital expenditure for such a project over the regulatory period exceeds [\$20m] and such expenditure has not been considered and approved by the AER at the time of revision of AGN's access arrangement proposal in 2016.

A submission from the South Australian Minister for Mineral Resources and Energy, the Hon Tom Koutsantonis MP, noted the change in definition from AGN's initial proposal and suggested that we give consideration to a monetary cap on this proposal as part of the pass through event, thereby limiting price uncertainty for consumers. Furthermore, in light of the complexity of the pre-construction matters, the Minister suggested we consider whether a cost pass through event may be beneficial in this circumstance and may provide a more targeted expenditure allowance.<sup>84</sup>

The reasons for our final decision in relation to AGN's proposed capex for the Mt Barker extension are set out in attachment 6 to this final decision. In short, we are not satisfied that all of AGN's proposed expenditure on the Mount Barker extension in the 2016–21 access arrangement period is conforming capex for the purposes of rule 79 of the NGR. We do not accept the submission that this means a pass through event in the current period—through which AGN proposes it could ask us to reconsider this element of its total forecast capex at a later date—is necessary or appropriate. The pass through mechanism provides an avenue for risk management where other strategies are unavailable or inefficient. Typically this would include low probability, high impact risks. We do not accept that a decision by a service provider's board of directors to go ahead with an extension project is appropriate subject matter for a pass through.

Our assessment approach is guided by the NGO and the RPPs. These provide that the service provider should be provided with a reasonable opportunity to recover at least the efficient costs incurred in providing services and complying with a regulatory obligation or requirement.<sup>85</sup> They also provide incentives to promote economic efficiency.<sup>86</sup> Together, they promote a balance between the economic costs and risks

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<sup>84</sup> Government of South Australia, *AGN Access Arrangement - submission to Draft Decision and Revised Proposal*, 24 February 2016, p. 2.

<sup>85</sup> NGL, s. 24(2).

<sup>86</sup> NGL, s. 24(3).

of the potential for under and over investment by a service provider, to promote efficient investment.<sup>87</sup> In the context of pass through events, we have particular regard to the impact on price, quality, safety, reliability and security of supply that may arise as a result of any change in the efficient operation of, and ability and incentive of, a service provider to invest in its network.<sup>88</sup>

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<sup>87</sup> NGL, s. 24(6).

<sup>88</sup> NGL, s. 23; See also AEMC 2012, *Cost pass through arrangements for Network Service Providers, Rule Determination*, 2 August 2012, Sydney, p. 6.