

AUSTRALIAN COMPETITION TRIBUNAL

Application by ATCO Gas Australia Pty Ltd [2016] ACompT 10

Review from: Economic Regulation Authority

File number: ACT 10 of 2015

Tribunal: **MIDDLETON J (PRESIDENT)**
PROFESSOR KT DAVIS (MEMBER)
MR R STEINWALL (MEMBER)

Date of Determination: 13 July 2016

Catchwords: **ENERGY AND RESOURCES** – application under s 245 of the National Gas Law (NGL) for review of an access arrangement decision by the Economic Regulation Authority – national gas objective (NGO) – interrelationship of constituent components and preferable reviewable regulatory decision by the ERA under s 28(1)(b)(i) and (1)(b)(iii) – role of the Tribunal on review – limited discretion under r 40(2) of the NGR – topics for review – sustaining capital expenditure – depreciation – corporate support operating expenditure – reference tariff variation mechanism – return on equity – gamma – materially preferable NGO decision

Legislation: *Economic Regulation Authority (National Gas Access Funding) Regulations 2009 (WA)*
Gas Standards Act 1972 (WA)
Gas Standards (Gas Supply and System Safety) Regulations 2000
National Gas (South Australia) Act 2008 (SA)
National Gas Access (WA) Act 2009 (WA)
National Gas Access (WA) (Local Provisions) Regulations 2009 (WA)
National Gas Amendment (Price and Revenue Regulation of Gas Services) Rules 2012
National Gas Rules
Statutes Amendment (National Electricity and Gas Laws – Limited Merits Review) Act 2013 (SA)

Cases cited: *Application by ActewAGL Distribution [2010] ACompT 4*
Application by ActewAGL Distribution [2015] ACompT 3
Application by APA GasNet Australia (Operations) Pty Limited (No 2) [2013] ACompT 8

Application by ATCO Gas Australia Pty Ltd [2015] ACompT 7
Application by ElectraNet Pty Limited (No 3) [2008] ACompT 3
Application by Envestra Ltd (No 2) [2012] ACompT 3
Application by WA Gas Networks (No 3) [2012] ACompT 12
Applications by Public Interest Advocacy Centre Ltd and Ausgrid [2016] A CompT 1
Applications by Public Interest Advocacy Centre Ltd, Ausgrid, Endeavour Energy and Essential Energy [2015] ACompT 2
Australian Competition and Consumer Commission v Australian Competition Tribunal (2006) 152 FCR 33

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IN THE AUSTRALIAN COMPETITION TRIBUNAL

ACT 10 of 2015

RE: APPLICATION UNDER SECTION 245 OF THE NATIONAL GAS LAW FOR A REVIEW OF A FULL ACCESS ARRANGEMENT DECISION MADE BY THE ECONOMIC REGULATION AUTHORITY IN RELATION TO ATCO GAS AUSTRALIA PTY LTD PURSUANT TO RULE 64 OF THE NATIONAL GAS RULES

BY: ATCO GAS AUSTRALIA PTY LTD (ABN 90 089 531 975)
Applicant

TRIBUNAL: MIDDLETON J (PRESIDENT)
PROFESSOR KT DAVIS (MEMBER)
MR R STEINWALL (MEMBER)

DATE OF DETERMINATION: 13 JULY 2016

THE TRIBUNAL DETERMINES THAT:

1. Pursuant to s 259(2)(c) of the *National Gas Access (Western Australia) Law* ('NGL'), the *Final Decision on Proposed Revisions to the Access Arrangement Decision for the Mid-West and South-West Gas Distribution System*, including appendices published on 10 September 2015 ('Amended Final Decision'), and the *Economic Regulation Authority's Revised Access Arrangement Decision for the Mid-West and South-West Gas Distribution System*, including appendices ('Access Arrangement Decision'), are set aside and remitted to the Economic Regulation Authority ('ERA') to make the decisions again in accordance with the following directions:
 - (a) the ERA is to decide the constituent components of the Amended Final Decision and Access Arrangement Decision that involve the estimated cost of corporate income tax (γ) by reference to a γ of 0.25; and
 - (b) the ERA is to consider, and to the extent appropriate, to vary interrelated constituent components of the Amended Final Decision and Access Arrangement Decision, having regard to s 28(1)(b)(iii) of the NGL, where necessary in light of variations made to the Amended Final Decision and Access Arrangement Decision by reason of sub-para (a) above.

REASONS FOR DETERMINATION

THE TRIBUNAL:

INTRODUCTION

1 This is an application by ATCO Gas Australia Pty Ltd (**ATCO**), pursuant to s 245 of the *National Gas Access (Western Australia) Law* (**NGL**), for review of a full access arrangement decision made by the Economic Regulation Authority (Western Australia) (**ERA**).

2 Section 7 of the *National Gas Access (WA) Act 2009* (WA) (the **Act**) provides that the NGL, as set out in the Schedule to the *National Gas (South Australia) Act 2008* (SA) and modified by Sch 1 to the Act, applies as a law of Western Australia. Section 26 of the NGL in turn, gives the *National Gas Rules* (**NGR**) the force of law in Western Australia.

Background

3 ATCO owns approximately 14,400 km of natural gas distribution networks in Western Australia, servicing approximately 720,000 consumers in the Perth greater metropolitan area and regional centres including Geraldton, Bunbury and Kalgoorlie and an LPG network in Albany. ATCO's application for review under s 245 of the NGL (**Review Application**) relates to ATCO's Mid-West and South-West Gas Distribution Systems network, which comprises approximately 13,700 km of pipeline delivering gas to approximately 700,000 customers in the Geraldton, Perth metropolitan, Bunbury, Capel and Busselton areas (**ATCO gas distribution network**).

4 ATCO is a "service provider" within the meaning of s 8 of the NGL, in that it owns, controls or operates a scheme pipeline. The NGL defines a "scheme pipeline" to include a "covered pipeline". The ATCO gas distribution network is a "covered pipeline" within the meaning of the NGL.

5 The "regulator" is defined in s 9 of the Act to mean the ERA "in relation to an ERA pipeline". The ATCO gas distribution network is an ERA pipeline.

6 Section 27 of the NGL prescribes the functions and powers of the ERA. The ERA is responsible for the economic regulation of pipeline services provided by service providers, including ATCO, by means of or in connection with a scheme pipeline. In particular, under Pt 9 of the NGR, the ERA is responsible for determining the total revenue for ATCO for each

regulatory year of an access arrangement period for the provision by ATCO of pipeline services through the ATCO gas distribution network.

Decision under review

7 On 17 March 2014, ATCO submitted for consideration by the ERA an access arrangement revision proposal for the access arrangement period AA4, being 1 July 2014 to 31 December 2019 (**AA Revision Proposal**). On 14 October 2014, the ERA published a draft decision on ATCO's AA Revision Proposal (**Draft Decision**). The Draft Decision indicated that the ERA would publish its own revised access arrangement and access arrangement information.

8 The Draft Decision included a statement of reasons for the decision and set out 45 amendments to the proposed revised access arrangement that would be required before the ERA would be prepared to approve the AA Revision Proposal.

9 In response to the Draft Decision, ATCO submitted additions and amendments to its AA Revision Proposal and a revised access arrangement proposal on 27 November 2014 (**Amended AA Revision Proposal**).

10 On 1 July 2015, the ERA published its access arrangement final decision entitled '*Final Decision on Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*' (**Final Decision**). In its Final Decision, the ERA refused to approve ATCO's Amended AA Revision Proposal and indicated that it would publish its own revised access arrangement and access arrangement information.

11 Following, and in response to the ERA's publication of its Final Decision, ATCO made further submissions and provided further information to the ERA.

12 On 10 September 2015, the ERA published:

(1) an amended Final Decision entitled '*Final Decision on Proposed Revisions to the Access Arrangement Decision for the Mid-West and South-West Gas Distribution System*' (**Amended Final Decision**), in which the ERA again refused to approve the Amended AA Revision Proposal submitted by ATCO; and

(2) a further decision entitled '*Economic Regulation Authority's Revised Access Arrangement Decision for the Mid-West and South-West Gas Distribution System*' for the ATCO distribution network (**Access Arrangement Decision**), in which the ERA

decided to approve the access arrangement drafted by the ERA (**‘ERA Access Arrangement’**).

13 The decision that is the subject of ATCO’s Review Application is the Access Arrangement Decision.

14 On 29 September 2015, the ERA published minor corrections to the ERA Access Arrangement.

Application for leave and review

15 On 1 October 2015, ATCO filed its application for leave to review and its Review Application, pursuant to s 245 of the NGL. In support of its Review Application, ATCO also filed the affidavit of Simon Harvey Byrne, sworn 1 October 2015 and the supplementary affidavit of Simon Harvey Byrne, sworn 5 November 2015.

16 On 1 December 2015, the Tribunal granted leave to ATCO to apply for a review of the Access Arrangement Decision made by the ERA, being satisfied of the relevant criteria in s 248 and s 249(2) of the NGL: *Application by ATCO Gas Australia Pty Ltd* [2015] ACompT 7.

17 ATCO applied for review in respect of the following grounds:

- (1) *Sustaining capital expenditure*: the decision by the ERA, in assessing ATCO’s forecast conforming capital expenditure (**‘capex’**) for the current access arrangement period pursuant to r 79 of the NGR for use in the calculation of the projected capital base pursuant to r 78 of the NGR, not to allow the costs of three sustaining capex projects in forecast conforming capex;
- (2) *Depreciation*: the decision by the ERA, in determining the depreciation schedule pursuant to r 89, to reject ATCO’s proposed depreciation schedule and underlying depreciation approach for the current and subsequent access arrangement periods, and instead to adopt an indexed straight line approach to depreciation of the capital base;
- (3) *Corporate support costs operating expenditure*: the decision by the ERA, in assessing ATCO’s forecast operating expenditure (**‘opex’**) pursuant to r 91 of the NGR, not to allow any access arrangement preparation costs for 2015;
- (4) *Reference tariffs and the reference tariff variation mechanism*: the decisions by the ERA:

- (a) to use forecast (rather than actual) revenue of ATCO for July to December 2014 in the calculation of the reference tariffs for the remainder of the access arrangement period after 1 October 2015; and
 - (b) not to include in the access arrangement a cost pass through event pursuant to r 97 in relation to certain regulatory and licence fees;
- (5) *The allowed rate of return on equity*: the decision by the ERA, in determining the rate of return pursuant to r 87 of the NGR, to:
- (a) estimate the return on equity by use of a single model, the Sharpe-Lintner Capital Asset Pricing Model ('**S-L CAPM**'); and
 - (b) adopt an estimate of equity beta of 0.7;
- (6) *The value of imputation credits*: the decision by the ERA, in determining the estimated cost of corporate income tax pursuant to r 87A of the NGR, to adopt a value of imputation credits (θ) of 0.4.

The grounds will be considered below according to the order above.

STATUTORY SCHEME FOR REVIEW

18 Section 259(4a) of the NGL provides that, in a case where the decision under review is a “designated reviewable regulatory decision”, the Tribunal may only make a determination to vary the designated reviewable regulatory decision (under s 259(2)(b)), or to set aside the designated reviewable regulatory decision and remit the matter back to the ERA (under s 259(2)(c)), if:

- (1) the Tribunal is satisfied that to do so will, or is likely to, result in a decision that is materially preferable to the designated reviewable regulatory decision in making a contribution to the achievement of the national gas objective set out in s 23 of the NGL ('**NGO**') (a '**materially preferable designated NGO decision**'); and
- (2) in the case of a determination to vary the designated reviewable regulatory decision, the Tribunal is satisfied that to do so will not require the Tribunal to undertake an assessment of such complexity that the preferable course of action would be to set aside the decision and remit the matter to the ERA to make the decision again.

19 The Access Arrangement Decision that is the subject of this Review Application falls within the definition of “designated reviewable regulatory decision”.

- 20 In connection with the operation of s 259(4a), s 259(4b) of the NGL requires the Tribunal to:
- (1) consider how the constituent components of the designated reviewable regulatory decision interrelate with each other and with the matters raised as a ground for review; and
 - (2) take into account the Revenue and Pricing Principles ('RPP') set out in s 24 of the NGL (in the same manner in which the ERA is to take into account the RPP under s 28 of the NGL);
 - (3) in assessing the extent of contribution to the achievement of the NGO, consider the designated reviewable regulatory decision as a whole; and
 - (4) not allow the following matters, in themselves, to determine the question about whether a materially preferable designated NGO decision exists:
 - (a) the establishment of a ground for review under s 246(1);
 - (b) the consequences for, or impacts on, the average annual regulated revenue of a covered pipeline service provider; or
 - (c) that the amount that is specified in or derived from the designated reviewable regulatory decision exceeds the amount specified in s 249(2).

21 It is important to note at the outset that the Tribunal may perform all the functions and exercise all the powers of the ERA under the NGL and the NGR for the purposes of making a determination: s 259(3) of the NGL. However, the Tribunal's function is not to substitute a decision which the Tribunal may prefer to make on the material before the ERA, but to consider the review-related material in order to determine whether a reviewable error has been established: see *Application by WA Gas Networks (No 3)* [2012] ACompT 12 at [22]; *Application by ActewAGL Distribution* [2010] ACompT 4 at [28]; *Application by ElectraNet Pty Limited (No 3)* [2008] ACompT 3 ('*ElectraNet (No 3)*') at [64] and [69].

22 It follows that, if no reviewable error under s 246(1) of the NGL is made out, the Tribunal must affirm the decision under review: see *ElectraNet (No 3)* at [64].

The National Gas Objective and the Revenue and Pricing Principles

23 Section 28(1)(a) of the NGL requires the ERA to make the Access Arrangement Decision in a manner that will or is likely to contribute to the achievement of the NGO.

24 The NGO is defined in s 23 of the NGL, which provides:

The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

25 The NGO is the overarching objective for economic regulation under the NGL. It requires the regulator to seek – in its decisions – to achieve “efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers”.

26 Additionally, when making those parts of the Access Arrangement Decision relating to a reference tariff, the ERA is required to take into account the RPP. The ERA is also permitted to take into account the RPP when performing or exercising any other “[ERA] economic regulatory function or power” if the ERA considers it appropriate to do so.

27 The RPP set out at s 24 of the NGL are as follows:

24 – Revenue and Pricing Principles

- (1) *The revenue and pricing principles are the principles set out in subsections (2) to (7).*
- (2) *A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in—*
 - (a) *providing reference services; and*
 - (b) *complying with a regulatory obligation or requirement or making a regulatory payment.*
- (3) *A service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. The economic efficiency that should be promoted includes—*
 - (a) *efficient investment in, or in connection with, a pipeline with which the service provider provides reference services; and*
 - (b) *the efficient provision of pipeline services; and*
 - (c) *the efficient use of the pipeline.*
- (4) *Regard should be had to the capital base with respect to a pipeline adopted—*
 - (a) *in any previous—*
 - (i) *full access arrangement decision; or*
 - (ii) *decision of a relevant Regulator under section 2 of the Gas Code;*
 - (b) *in the Rules.*

- (5) *A reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which that tariff relates.*
- (6) *Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services.*
- (7) *Regard should be had to the economic costs and risks of the potential for under and over utilisation of a pipeline with which a service provider provides pipeline services.*

28 As a result of amendments made to the NGL following the enactment of the *Statutes Amendment (National Electricity and Gas Laws – Limited Merits Review) Act 2013* (SA) (the ‘**LMR Act**’), the ERA is required by s 28(1)(b) of the NGL:

- (1) to ensure that ATCO, users or prospective users of the pipeline services, and any user or consumer associations or interest groups that the ERA considers have an interest in the matter are informed of the material issues under consideration by the ERA and are given a reasonable opportunity to make submissions in respect of the decision before it is made;
- (2) to specify:
 - (a) the manner in which the constituent components of the decision relate to each other; and
 - (b) the manner in which that interrelationship has been taken into account in the making of the decision;
- (3) if there are two or more possible designated reviewable regulatory decisions that will or are likely to contribute to the achievement of the NGO:
 - (a) to make the decision that the ERA is satisfied will or is likely to contribute to the achievement of the NGO (the ‘**preferable designated reviewable regulatory decision**’); and
 - (b) to specify reasons as to the basis on which the ERA is satisfied that the decision is the preferable designated reviewable regulatory decision.

29 In *Applications by Public Interest Advocacy Centre Ltd and Ausgrid* [2016] ACompT 1 (‘*PIAC and Ausgrid*’), the Tribunal (differently constituted) recently made the following

pertinent comments (at [77]) on the role of the NGO (and the National Electricity Objective, as relevant in that proceeding):

The ultimate objective reflected in the NEO and NGO is to direct the manner in which the national electricity market and the national natural gas market are regulated, that is, in the long term interests of consumers of electricity and natural gas respectively with respect to the matters specified. The provisions proceed on the legislative premise that their long term interests are served through the promotion of efficient investment in, and efficient operation and use of, electricity and natural gas services. This promotion is to be done “for” the long term interests of consumers. It does not involve a balance as between efficient investment, operation and use on the one hand and the long term interest of consumers on the other. Rather, the necessary legislative premise is that the long term interests of consumers will be served by regulation that advances economic efficiency.

Community Consultation

30 The LMR Act also introduced a new process in s 261(1)(b) of the NGL such that the Tribunal must, before making a determination that relates to a designated reviewable regulatory decision, take reasonable steps to consult, in such manner as the Tribunal thinks appropriate, with:

- (1) users and prospective users of the pipeline services; and
- (2) any user or consumer associations or user or consumer interest groups that the Tribunal considers have an interest in the determination, other than a user or consumer association or a user or consumer interest group that is a party to the review.

31 The consultation process is an additional procedural step which the Tribunal must take and, ideally, is to be accommodated within the target time prescribed by s 260 of the NGL.

32 The Tribunal notified the public of the consultation both via the Australian Competition Tribunal website and newspaper advertisement.

33 The consultation took place at the Federal Court of Australia in Perth on 2 December 2015.

34 To ensure a satisfactory process, the Tribunal issued a consultation agenda under which it provided for those who wished to speak to the Tribunal on that occasion either personally or on behalf of an organisation, to do so. In addition, opportunity was given to those who wished to make written submissions to submit them for consideration by the Tribunal following the consultation.

35 In this application, no member of the community sought to make any submissions to the Tribunal.

GROUNDINGS FOR REVIEW

Nature and scope of the grounds for review under s 246

36 Section 246(1) of the NGL provides that applications for merits review under s 245(1) may only be made on one or more of the following grounds:

- (1) the original decision maker made an error of fact in the decision maker's findings of facts, and that error of fact was material to the making of the decision (s 246(1)(a) of the NGL);
- (2) the original decision maker made more than one error of fact in the decision maker's findings of facts, and those errors of fact, in combination, were material to the making of the decision (s 246(1)(b) of the NGL);
- (3) the exercise of the original decision maker's discretion was incorrect, having regard to all the circumstances (s 246(1)(c) of the NGL); or
- (4) the original decision maker's decision was unreasonable, having regard to all the circumstances (s 246(1)(d) of the NGL).

Error of fact

37 In order to determine whether the ERA made an error of fact for the purposes of s 246(1)(a) and (b) of the NGL, the Tribunal must:

- (1) ascertain the precise conclusion of fact made by the ERA;
- (2) determine whether, within that conclusion, there is a finding of fact (or facts) that can properly be said to be erroneous (or erroneous in combination); and
- (3) if the finding of fact (or combination of facts) was erroneous, determine whether the error was material to the making of the decision.

Incorrect exercise of discretion

38 A discretionary decision making process requires the decision maker to weigh up relevant considerations. Some of the circumstances in which an incorrect exercise of discretion will occur are set out in the following paragraphs.

39 A decision which is not determined by reference to the applicable criteria in the NGL or the NGR is likely to have involved an incorrect exercise of discretion. Similarly, an incorrect exercise of discretion may occur where the exercise of the discretion is:

- (1) based upon a misconstruction or misapplication of relevant principles, methodologies or factors required to be considered by the NGL or NGR;
- (2) affected by a failure to have regard to a mandatory relevant factor prescribed by the NGL or the NGR;
- (3) affected by the regulator taking into account factors which are extraneous to those relevant under the NGL or NGR; or
- (4) affected by a failure to take into account a relevant submission.

40 If the reasons for a decision contain a logical error or an unexplained discretionary choice made in reaching a conclusion, then the decision is likely to have involved an incorrect exercise of discretion (and is also likely to be unreasonable). If factual error is made out and the exercise of discretion is based upon it, the exercise of discretion is incorrect.

41 However, the ground for review is not available merely because the Tribunal would exercise the discretion in a different way. If the ERA has exercised its discretion correctly, in accordance with correct principles, and if the particular exercise of discretion was open to it within the framework of the NGL, then it is not for the Tribunal to substitute a decision which it might prefer on the material before the decision maker.

Unreasonableness

42 The ground for review in s 246(1)(d) of the NGL requires that the decision under review is itself unreasonable.

43 For the unreasonableness ground in s 246(1)(d) of the NGL to be established, it must involve logical error or irrationality in the decision, and the decision must not be justified by reference to its stated reasons. A decision will be unreasonable if there is an absence of reason to explain the discretionary choices made by the ERA in arriving at its conclusions.

44 It is not possible to give an exhaustive definition of what constitutes an unreasonable decision. However, at one end of the spectrum, an arbitrary or capricious decision will be unreasonable, but at the other end of the spectrum, it is not sufficient merely to reach a different view to the original decision maker.

45 A decision which is not determined by reference to the applicable criteria in the NGL or the NGR is likely to be unreasonable in all the circumstances. A failure to take into account a matter which is required to be considered, or consideration of a matter which is irrelevant, may also constitute unreasonableness.

46 The unreasonableness ground in s 246(1)(d) and the incorrect exercise of discretion ground in s 246(1)(c) overlap to a certain extent. For example, if the reasons for a decision contain logical error or an unexplained discretionary choice made in reaching a conclusion, then the decision is likely to be unreasonable.

Interaction between the grounds

47 Notwithstanding the discussion above, and as noted by the Tribunal in *Application by ATCO Gas Australia Pty Ltd* [2015] ACompT 7, the Tribunal accepts that:

- (1) the line between the several available grounds for review is not necessarily always clear cut;
- (2) there is no clear line between factual error, opinion, and discretionary judgment, as one may feed into the other;
- (3) any such error or errors - if accepted by the Tribunal - may be a combination of error or errors of fact, wrongful exercise of discretion, and the outcome of an unreasonable decision.

See *Application by ATCO Gas Australia Pty Ltd* [2015] ACompT 7; *Applications by Public Interest Advocacy Centre Ltd, Ausgrid, Endeavour Energy and Essential Energy* [2015] ACompT 2; *Application by ActewAGL Distribution* [2015] ACompT 3.

48 In accordance with the legislative context, ATCO's Review Application to the Tribunal is limited in that:

- (1) ATCO must establish that the ERA made an error of one of the four kinds described in s 246(1)(a)-(d) of the NGL;
- (2) where, as in the present application, the application relates to a "designated reviewable regulatory decision", ATCO must identify how addressing any errors it establishes by varying or setting aside the decision would, or would be likely to, result in a materially preferable designated NGO decision;

- (3) ATCO may not raise any “matter” (by way of evidence or submissions) that it did not raise and maintain in submissions to the ERA before the decision was made; and
- (4) unless the Tribunal is satisfied that a ground of review has been made out, the Tribunal must not consider any material other than that specified in s 261(1) of the NGL, which material essentially comprises the material that was before the ERA and the parties’ submissions to the Tribunal.

SUSTAINING CAPITAL EXPENDITURE

Introduction

49 ATCO seeks a review of the ERA’s determination of ATCO’s forecast capex used to determine projected capital base over AA4.

50 Specifically, ATCO contended that the ERA was in error in not approving forecast sustaining capex relating to the following projects:

- (1) a proposed spur line from the existing Dampier to Bunbury transmission pipeline offtake at the Muchea gate station to Two Rocks and areas south of Two Rocks including Yanchep and Alkimos (**‘Two Rocks project’**);
- (2) a three stage project commencing with reinforcement from the Fairbridge gate station to Pinjarra, then two further stages extending a new spur line to Greenfields and Mandurah (**‘Peel project’**); and
- (3) a number of smaller interdependency projects to improve reliability and security of supply at certain points in the network (**‘Interdependency project’**) as well as metallic mains replacement.

Legislative framework

51 Under r 76(a) and r 76(b) of the NGR, two of the building blocks in determining ATCO’s total revenue for each regulatory year of the access arrangement period are a return on, and depreciation of, the projected capital base for the year.

52 The projected capital base is determined by adding to the opening capital base, forecast conforming capex for the period (less forecast depreciation and assets to be disposed of during the period): r 78.

53 Under r 79(1), conforming capex is capex that meets the following criteria:

- (1) the capex must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;
- (2) the capex must be justifiable on a ground stated in r 79(2).

54 Capex is justifiable under r 79(2) if:

- (a) *the overall economic value of the expenditure is positive; or*
- (b) *the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capex; or*
- (c) *the capex is necessary:*
 - (i) *to maintain and improve the safety of services; or*
 - (ii) *to maintain the integrity of services; or*
 - (iii) *to comply with a regulatory obligation or requirement; or*
 - (iv) *to maintain the service provider's capacity to meet levels of demand for services existing at the time the capex is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity); or*
- (d) *the capex is an aggregate amount divisible into two parts, one referable to incremental services and the other referable to a purpose referred to in paragraph (c), and the former is justifiable under paragraph (b) and the latter under paragraph (c).*

55 ATCO contended that the capex in question is justified under one or more of the heads of justification in r 79(2)(c)(i)-(iii), namely that it is necessary to:

- (1) maintain and improve the safety of services: r 79(2)(c)(i); or
- (2) maintain the integrity of services: r 79(2)(c)(ii); or
- (3) comply with a regulatory obligation or requirement: r 79(2)(c)(iii).

56 Rule 74 addresses the basis on which a forecast (like forecast capex) is to be determined, and the information necessary to support it. Rule 74 provides:

- (1) *Information in the nature of a forecast or estimate must be supported by a statement of 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.*

57 Rule 71 is also relevant to the ERA's consideration of forecast capex, and provides:

- (1) *In determining whether capital or operating expenditure is efficient and complies with other criteria prescribed by these rules, the [ERA] may, without embarking on a detailed investigation, infer compliance from the*

operation of an incentive mechanism or on any other basis the [ERA] considers appropriate.

- (2) *The [ERA] must, however, consider, and give appropriate weight to, submissions and comments received when the question whether a relevant access arrangement proposal should be approved is submitted for public consultation.*

58 The ERA's discretion in approving conforming capex is limited: r 79(6). The consequence is that under r 40(2) of the NGR, the ERA may not withhold its approval to an element of an access arrangement proposal that is governed by the relevant provision if the ERA is satisfied that it:

- (1) complies with applicable requirements of the NGL and the NGR; and
(2) is consistent with applicable criteria (if any) prescribed by the NGL and the NGR

59 This is in contrast to other provisions of the NGR where the ERA has no discretion or conversely full discretion: see r 40(1), r 40(3).

60 There may appear to be some tension between these provisions in the NGR, and s 28(1)(b)(iii) of the NGL. However, putting aside any issues of the status of the NGR (which whilst they have the force of law in Western Australia are not elevated to have the same effect as the NGL), s 28(1)(b)(iii) is to be applied in contemplation of the operation of the NGR. So, for instance, if a provision of the NGR has mandatory effect (see, eg r 50) then the ERA must decide according to that direction. It could not rely on s 28(1)(b)(iii) to ignore the operation of a mandatory provision of the NGR, on the basis that there was a preferable designated reviewable regulatory decision. It is only when the ERA, in correctly applying the NGR, comes to the conclusion that there are two or more possible designated reviewable regulatory decisions, that the ERA needs to consider whether there is such a "preferable" decision. If the ERA has a limited discretion under the NGR, it must proceed accordingly, and not at large.

Factual background

Australian and New Zealand standards and their application

61 One justification for ATCO's sustaining capex is its need to comply with a number of Australian standards. ATCO and the ERA had very different interpretations of what those standards required and how they should be applied. As much of the claimed sustaining capex turns on these standards, it is necessary to consider them in some detail.

62 AS/NZS 4645.1:2008 *Gas distribution networks Part 1: Network management* ('**AS 4645**') applies to gas distribution networks. Appendix C of AS 4645 is headed "Qualitative risk assessment". The opening paragraph of Appendix C headed "C1 General" provides:

This appendix provides guidance for qualitative risk assessment undertaken in accordance with AS/NZS 4360.

63 ATCO relied on the references to the expression "qualitative" in the heading to Appendix C and the above passage in support of its view that AS 4645 does not require (and relevantly did not require) a cost-benefit analysis. It consistently maintained that position.

64 The reference in Appendix C to "AS/NZS 4360" is a reference to the Australian and New Zealand risk management standard AS 4360 ('**AS 4360**'). It is undisputed that AS 4360 was replaced by *AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines* ('**AS 31000**') in November 2009. The preface to AS 31000 traces the development of the standard and the decision to move to an international standard on risk management.

65 The preface to AS 31000 also states that the process described for managing risk is identical to that in AS 4360. Much of AS 31000 is devoted to describing that process and what it requires. Some of the features of that process include:

- communication and consultation with external and internal stakeholders during all stages of the risk management process;
- the internal and external environment in which the organisation seeks to achieve its objectives is to be assessed;
- risk assessment is the overall process of risk identification, risk analysis and risk evaluation;
- risk treatment involves selecting one or more options for modifying risks, and implementing those options;
- there should be planned monitoring and review as part of the risk management process; and
- risk management activities should be traceable.

66 The risk analysis process under AS 31000 may be undertaken with varying degrees of detail, depending on the risk, the purpose of the analysis and the information, data and resources available. It is expressed that the analysis can be qualitative, semi-qualitative or quantitative,

or a combination of these depending on the circumstances. Again, ATCO pointed to this passage in support of its view that a cost-benefit approach is not mandated.

67 The management process under AS 31000 also requires

[s]electing the most appropriate risk treatment option [which] involves balancing the costs and efforts of implementation against the benefits derived, with regard to legal, regulatory, and other requirements such as social responsibility and the protection of the natural environment.

68 The ERA relies on this passage (among others) in support of its view that a cost-benefit analysis is required.

69 AS 4360 and its replacement, AS 31000 are useful in setting the framework for the management of risks. However, those standards are necessarily general in nature as they are intended to apply to many industries, not just gas. For that reason, the parties acknowledged that AS 4645 is more relevant as it applies specifically to gas distribution networks, including the ATCO gas distribution network. Unsurprisingly, AS 4645 was the subject of much attention by the parties.

70 AS 4645 requires that all actions and activities not unduly expose personnel, the public or the environment to unacceptable risks. Measures to mitigate those risks are to be identified, reviewed and documented. The areas to be considered include:

- safety of the public (including consumers);
- safety of personnel working on the gas distribution network;
- integrity of the network;
- minimisation of environmental impacts; and
- protection of property.

71 AS 4645 requires that the risk assessment of threats be undertaken under AS 4360. AS 4645 further provides:

Appendix C provides the requirements for qualitative risk assessment and it provides a risk matrix that should be used in an AS/NZS 4360 qualitative risk assessment.

72 There are circumstances where risk estimation using qualitative methods is required to enable comparison of alternative mitigation measures as a basis for demonstration of ‘as low as reasonably practical’ (**ALARP**), and in some jurisdictions, to satisfy planning criteria.

73 Again, ATCO relied on the references to the expression ‘qualitative’ in support of its view that a qualitative approach, rather than a cost-benefit analysis is all that is required.

74 Appendix C of AS 4645 provides guidance for undertaking a qualitative risk assessment. That process first involves assessing the severity of the consequences of failure of each event. The consequences to be assessed include the potential for the following:

- Human injury or fatality
- Interruption to continuity of supply with economic impact
- Environmental damage

75 Other factors such as property damage and loss of reputation may also be considered.

76 A severity class is then assigned to each failure event based on the consequences at the location of the failure (‘**consequence analysis**’), using the class selected from the following Table C1:

**TABLE C1
SEVERITY CLASSES**

Dimension	Severity class				
	Catastrophic	Major	Severe	Minor	Trivial
	Measures of severity				
People	Multiple fatalities result.	Few fatalities, or several people with life-threatening injuries	Injury or illness requiring hospital treatment	Injuries requiring first aid treatment	Minimal impact on health and safety
Supply	Long term interruption of supply	Prolonged interruption or long-term restriction of supply	Short term interruption or prolonged restriction of supply	Short term interruption or restriction of supply but shortfall met from other sources	No impact; no restriction of gas distribution network supply
Environment (See Note)	Effects widespread, viability of ecosystems or species affected, permanent major changes	Major off-site impact or long-term severe effects or rectification difficult	Localized (<1 ha) and short-term (<2 yr) effects, easily rectified	Effect very localized (<0.1 ha) and very short term (weeks), minimal rectification	No effect, or minor on-site effects rectified rapidly with negligible residual effect

NOTE: Significant environmental consequences may occur in locations which are relatively small and isolated.

77 A severity class is applied for each of the dimensions, people, supply and the environment, and a severity class assigned to each ranging from catastrophic to trivial (as seen across the top columns of Table C1) .

78 Second, a “frequency analysis” of each threat is to be assigned for each location where risk estimation is required. The frequency classes are those from the following Table C2:

**TABLE C2
FREQUENCY CLASSES**

Frequency class	Frequency description
Frequent	Expected to occur once per year or more
Occasional	May occur occasionally in the life of the gas distribution network
Unlikely	Unlikely to occur within the life of the gas distribution network, but possible
Remote	Not anticipated for this gas distribution network at this location
Hypothetical	Theoretically possible but has never occurred on a similar gas distribution network

79 The frequency classes range from “Frequent” (expected to occur once per year or more) to “Hypothetical” (theoretically possible but has never occurred on a similar gas distribution network).

80 Third, Table C3 below is then used to combine the results of the consequence analysis and frequency analysis to determine the risk rank:

**TABLE C3
RISK MATRIX**

	Catastrophic	Major	Severe	Minor	Trivial
Frequent	Extreme	Extreme	High	Intermediate	Low
Occasional	Extreme	High	Intermediate	Low	Low
Unlikely	High	High	Intermediate	Low	Negligible
Remote	High	Intermediate	Low	Negligible	Negligible
Hypothetical	Intermediate	Low	Negligible	Negligible	Negligible

81 For example, a severity class of “Catastrophic” with a frequency class of “Hypothetical” yields a risk ranking of “Intermediate” in Table C3.

82 Once the risk ranking is determined, action is to be taken to reduce the risk as set out in the following Table C4:

TABLE C4
RISK TREATMENT ACTIONS

Risk rank	Required Action
Extreme	Modify the threat, the frequency or the consequences to ensure that the risk rank is reduced to Intermediate or lower. For a gas distribution network in operation the risk must be reduced immediately.
High	Modify the threat, the frequency or the consequences to ensure that the risk rank is reduced to Intermediate or lower. For a gas distribution network in operation the risk must be reduced as soon as possible, typically within a timescale of not more than a few weeks.
Intermediate	Repeat threat identification and risk evaluation processes to verify and, where possible, quantify the risk estimation; determine the accuracy and uncertainty of the estimation. Where the risk rank is confirmed to be Intermediate, if possible modify the threat, the frequency or the consequence to reduce the risk rank to Low or Negligible. Where the risk rank cannot be reduced to Low or Negligible action shall be taken to— (a) remove threats, reduce frequencies and/or reduce severity of consequences to the extent practicable, and (b) demonstrate ALARP. For a gas distribution network that is in operation, the reduction to Low or Negligible or demonstration of ALARP must be completed as soon as possible, typically within a timescale of not more than a few months.
Low	Determine the management plan for the threat to prevent occurrence and to monitor changes which could affect the classification.
Negligible	Review at the next review interval.

83 As can be seen from Table C4, any risk that is considered to be “Extreme” or “High” should be dealt with to reduce it to “Intermediate” or lower.

84 Continuing the example of a risk ranking of “Intermediate”, Table C4 specifies the actions required including repeating the evaluation process and where the risk is confirmed, modifying the threat, the frequency or the consequence to reduce the risk rank to “Low” or “Negligible”. Where the risk cannot be reduced to “Low” or “Negligible”, action is to be taken to:

- remove threats, reduce frequencies and/or reduce severity of consequences to the extent practicable; and
- demonstrate ALARP.

85 In relation to ALARP, AS 4645 provides:

A risk cannot be designated as ALARP until the following has been completed:

- Analysis of the means of further reducing the risk, including an analysis of various options.*
- Review as to the reasons why these further means have not been adopted.*
- Substantiation that the cost of further risk reduction measures is grossly disproportionate to the benefit gained from the reduced risk that would result.*

Options that shall be considered include –

- (i) relocation of the network components;
- (ii) modification of the design of network components;
- (iii) review of pressure levels;
- (iv) modification or enhancement of specific operations or maintenance procedures;
- (v) modification to gas distribution network marking; and
- (vi) threat treatment for operating gas distribution networks shall consider interim control measures (e.g. reduction in operating pressure, access restrictions) to allow time for the implementation of permanent control measures (e.g. repair).

86 Again, ATCO maintains that ALARP can be demonstrated without a cost-benefit analysis.

The ATCO risk matrix

87 ATCO developed a risk management matrix in April 2014. The matrix adopts the factors specified in AS 4645, namely the impact on people, the environment and supply and the severity classes for each ranging from “Catastrophic” to “Trivial”. However, the matrix applied different definitions of “Consequence” (severity) from that specified in AS 4645 – presumably reflecting ATCO’s specific risk appetite, as identified in the following table:

CONSEQUENCE							
Rating	Descriptor-Business Impact		People	Environmental	Supply	Reputation	Financial (NPAT)
5	Catastrophic	Threatens the survival of ATCO Gas Australia	More than 2 fatalities	Effects widespread; Viability of threatened ecosystems or species affected or permanent major changes	Interruption of supply affecting > 25,000 customers	Irreversible loss of confidence from regulators, government or public in ATCO Gas Australia	>\$8m
4	Major	Threatens the effective operation of ATCO Gas for a substantial period - Including the ability to raise capital - or significantly effects the operation of ATCO Gas Australia in the future	Up to 2 fatalities; Several people with life threatening or permanently disabling injuries	Major offsite impact; Long term (2yrs or more), severe effects; Rectification difficult; Major impact in an area of high conservation value of significance	Interruption or restriction of supply affecting >5,000 customers	High profile adverse attention/concerns from - - Regulators; - Government; - State/National /international media; or - Public	>\$4m-\$8m
3	Severe	No Threat to the affective operation of ATCO Gas Australia, but exposes ATCO Gas Australia; to unacceptable cost consequences	Injuries or illness requiring hospital treatment	Localised with short term effects (<2yrs); Easily rectified; Moderate impact upon cultural & heritage sites or rare/endangered flora/fauna; Chemical release contained with outside assistance	Interruption or restriction of supply affecting >500 customers Prolonged interruption to critical customers*	Adverse attention/concerns from - - Regulators; - Government; - State/National/international media; or - Public	>\$2m - \$4m
2	Minor	No material impact on ATCO Gas Australia; Issues are dealt with internally	Injuries or illness requiring first aid or medical treatment	Localised with very short term (weeks) effects; Easily rectified; Minor impact on rare/endangered flora/fauna; Onsite chemical release with is contained without outside assistance	Interruption or restriction of supply affecting >=100 customers Short-term interruption to critical customers*	Minor adverse attention/concerns from - - Regulators; - Government; - Local/State media attention; or - Public	>\$400k - \$2m
1	Trivial	No material impact on ATCO Gas Australia; Issues are dealt with routinely by operational areas	Minimal impact on health and safety	No effect or minor onsite effects that are rectified rapidly with a negligible, residual effect; Minor lead that doe4s not lead to contamination	Interruption or restriction of supply affecting <100 customers No impact to critical customers*	Minor concerns from isolated members of the public.	\$400k

88 ATCO also developed the following frequency table:

FREQUENCY			
Rating	Descriptor	Definition - Network Related Risk	Definition - Non - Network Related Risk
5	Frequent	The event is expected to occur once per year or more	The event is expected to occur
4	Occasional	The event may occur occasionally in the life of the asset	The event may occur occasionally
3	Unlikely	The event is unlikely to occur within the life of the asset, but it is possible	The event is unlikely to occur, but it is possible
2	Remote	The event is not anticipated to occur for the asset at this location	The event is not anticipated to occur
1	Hypothetical	The event is theoretically possible, but has never occurred on a similar asset	The event is theoretically possible, but has never occurred in businesses similar to ATCO Gas Australia

89 As can be seen, ATCO modified the descriptors for both consequence (severity) and frequency from that listed in AS 4645. A comparison of the specific changes ATCO made to the supply category of risk is set out in Table 37 below:

Table 37: Changes to the Supply category of risks

Consequence Category	AS/NZS4645 & AS2885 Supply	ATCO Gas Australia Supply
Catastrophic	Long term interruption of supply	Interruption to supply affecting >25,000
Major	Prolonged interruption or long term restriction of supply	Interruption or restriction of supply affecting restriction of supply >5,000 customers
Severe	Short term interruption or prolonged restriction of supply	Interruption or restriction of supply affecting restriction of supply >5,000 customers Prolonged interruption to critical customers
Minor	Short term interruption or restriction of supply but shortfall met from other sources	Interruption or restriction of supply affecting =>100 customers Short term interruption to critical customers
Trivial	No impact; no restriction of gas distribution network	Interruption or restriction of supply affecting <100 customers No impact to critical customers

90 Similarly, a comparison of the specific changes ATCO made to the people category of risk is set out in Table 36 below:

Table 36: Changes to the People category of risks

Consequence Category	AS/NZS 4645 & AS2885 People	ATCO Gas Australia People
Catastrophic	Multiple fatalities result.	More than 2 fatalities
Major	Few fatalities, or several people with life threatening injuries	Up to 2 fatalities; Several people with life threatening or permanent disabling injuries
Severe	Injury or illness requiring hospital treatment	Injury or illness requiring hospital treatment
Minor	Injuries requiring first aid or medical treatment	Injuries requiring first aid treatment
Trivial	Minimal impact on health and safety	Minimal impact on health and safety

91 It is worth noting some specific differences between ATCO’s approach and that specified in AS 4645, as they are the subject of dispute. Relevantly for “Supply”:

- ATCO’s matrix defines a “Catastrophic” event as one involving the interruption of supply affecting more than 25,000 customers. AS 4645 defines it as a “Long term interruption of supply”.
- ATCO’s matrix defines a “Major” supply event as one involving the interruption or restriction of supply affecting greater than 5000 customers. AS 4645 defines it as a “Prolonged interruption or long- term restriction of supply”.

92 Relevantly, for “People”:

- ATCO’s matrix defines a “Catastrophic” event as more than two fatalities. AS 4645 defines it as “Multiple fatalities result”.
- The ATCO matrix defines a “Major” event as “Up to 2 fatalities: Several people with life threatening or permanently disabling injuries”. AS 4645 defines it as “Few fatalities, or several people with life threatening injuries”.

ATCO’s Safety Case

93 The *Gas Standards (Gas Supply and System Safety) Regulations 2000* (**‘Regulations’**) are made under the *Gas Standards Act 1972* (WA).

94 Regulation 27 requires that a network operator submit a safety case to the Director of Energy Safety (**‘Director’**) for the distribution system of the network operator. A “network

operator” is defined in reg 3 to mean an undertaker who operates a distribution system. It was undisputed that reg 27 applies to ATCO.

95 Regulation 3 defines a “safety case” as relevantly a document that sets out the safety management and technical practices and procedures to be followed by a network operator in the operation of a distribution system.

96 Regulation 27(2) requires that the safety case comply with a number of standards including:

- AS 4645;
- AS 2885.1 - 2007 (Pipelines - Gas and liquid petroleum Part 1: Design and construction); and
- AS 2885.3 - 2001 (Pipelines - Gas and liquid petroleum Part 3: Operation and maintenance).

97 Regulation 31(1) requires that the safety case be accompanied by a certificate signed by a nominated auditor certifying that the safety case complies with a number of matters:

31. Preliminary certification of safety case

(1) *A safety case submitted under regulation 27 is to be accompanied by a certificate signed by the nominated auditor certifying that —*

- (a) *the safety case complies with the requirements of this Division;*
- (b) *the safety case is appropriate having regard to the size and complexity of the distribution system and the possible risks; and*
- (c) *the safety case adequately identifies the measures necessary —*
 - (i) *to prevent hazardous events identified in the safety case from occurring; and*
 - (ii) *to protect consumers, the public, employees, plant, equipment and the environment, should such events occur;*
- (d) *the safety case adequately identifies the training and equipment requirements necessary for personnel to be able to implement the various procedures set out in it; and*
- (e) *the network operator has in place a plan (the “**implementation plan**”) for —*
 - (i) *implementing the measures referred to in paragraph (c); and*
 - (ii) *meeting the requirements referred to in paragraph (d)*

98 Once submitted, the Director is required to assess the safety case: reg 32(1). The Director may approve the safety case for the purpose of certification under reg 33(1) or refuse approval and must notify the network operator: reg 32(2).

99 If a safety case is approved, reg 33(1) provides that a network operator may submit to the Director a certificate signed by the auditor certifying that the measures specified in reg 31(1)(c) have been implemented, and that the requirements in reg 31(1)(d) have been met. On receipt of that certificate the Director may accept the safety case or reject it: reg 34(1).

100 In 2011 ATCO, under previous ownership as WA Gas Networks Pty Ltd (**‘WAGN’**), submitted a safety case in relation to its gas distribution network to the Director under reg 27. In June 2011, EnergySafety approved the safety case for the purposes of certification.

101 In July 2011, WAGN submitted a revised and certified safety case, and acceptance of the safety case was notified by EnergySafety under reg 34(1).

102 The parties proceeded on the basis that the safety case as submitted by WAGN and accepted by EnergySafety (the **‘Safety Case’**) now applied to ATCO. As indicated, the accepted Safety Case required ATCO to apply certain risk thresholds, and to then take prescribed actions based on those thresholds, under AS 4645 and AS 2885.

103 Regulation 37 requires that a “prescribed activity” comply with the accepted safety case:

37. Compliance with accepted safety case

If an accepted safety case has effect in relation to a distribution system, the network operator must ensure that a prescribed activity is carried out in such a way as to comply with—

- (a) any practice or procedure set out in the accepted safety case; and*
- (b) any provision of a code, standard or specification compliance with which is required under the accepted safety case.*

104 “Prescribed activity” is defined in reg 3 to mean

anything related to the conveyance, control, supply or use of gas done by, for, or with the authority of, the network operator in the course of the construction, maintenance, repair or operation of any part of a distribution system

105 Regulation 37(a) requires ATCO, in the course of operating its gas distribution network to comply with any “practice or procedure” set out in the Safety Case. ATCO said this clearly includes the procedure of assessing risks and then, to the extent that the Safety Case

prescribes a practice or procedure that must be followed, dealing with them in accordance with the Safety Case – which must comply with AS 4645.

106 Regulation 37(b) requires compliance with any provision of a code, standard or specification. ATCO submitted that the reference to ‘standard’ includes for example AS 4645, compliance with which is required under the Safety Case.

107 Clause 1 of ATCO’s Safety Case indicates, as required by reg 31(1)(c) and (d), that it is intended to adequately identify:

- the measures necessary to “prevent hazardous events identified in the safety case from occurring”;
- the measures necessary “to protect consumers, the public, employees, plant, equipment and the environment, should such events occur”; and
- “the training and equipment requirements necessary for personnel to be able to implement the various procedures set out in it”.

108 The Safety Case is also expressed to comply with AS 4645 and where applicable, also with:

- AS 2885.1 - 2007 (Pipelines – Gas and liquid petroleum Part 1: Design and construction); and
- AS 2885.3 - 2001 (Pipelines – Gas and liquid petroleum Part 3: Operation and maintenance),

as required by reg 27(2).

109 The Safety Case also obliges ATCO to undertake a Formal Safety Assessment (‘FSA’) where aspects of the management of the network are not in accordance with the means of compliance identified in AS 4645 to ensure the risk measures implemented result in an acceptable level of risk.

110 ATCO says it implemented its Safety Case in January 2013.

The Two Rocks, Peel and Interdependency projects

111 On 17 March 2014, ATCO submitted its AA Revision Proposal. It proposed sustaining capex for the Two Rocks project, the Peel project and the Interdependency project (the ‘**Projects**’). As will be seen, ATCO claimed that the capex on these Projects is required to comply with

the Regulations, the Safety Case and AS 4645. To understand this argument it is useful to describe these projects in more detail.

THE TWO ROCKS PROJECT

112 In 2013, ATCO prepared a document titled ‘Spurline – Two Rocks (Growth and Maintenance Capex) in relation to the Two Rocks project’ (**‘Two Rocks project report’**).

113 The Two Rocks project report is a high level assessment proposing to secure supply to the North Metro HP network in the event that the pressure reduction station (**‘PRS’**) at various points is unavailable. The report draws on Western Australian Department of Planning Report Directions 2031 (**‘Directions 2031’**) identifying potential developments in the North West region over the next 20 years.

114 The Two Rocks project report presents three options. One of these is a ‘do nothing’ option.

115 Another option is the construction of a 36 km steel pipeline to Two Rocks and areas south of Two Rocks including Yanchep and Alkimos from the existing DBP Muchea off take, along existing roads and the installation of a PRS. This option was said to “ensure continuity of gas supply to existing customers and capacity to provide gas to an additional 111,000 customers from the proposed Greenfield developments in the northern part of North West region in (sic) next 20 years”.

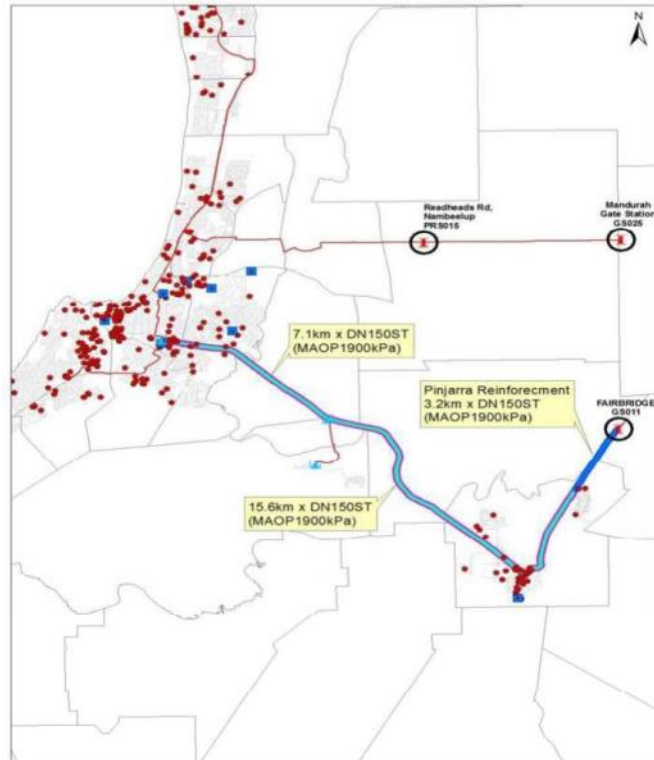
116 A further option involves constructing a 44 km 300mm steel pipeline with two PRSs, from the existing DBP Muchea off take, along existing roads with a further 5 km 200mm steel reinforcement in the next access arrangement period (**‘AA5’**). Its aim is also to ensure continuity of gas supply to existing customers and capacity to provide gas to an additional 111,000 customers from the proposed Greenfield developments in the northern part of North West region. This option is shown in the following map:



- 117 As indicated, this option includes a subsequent reinforcement line to be constructed in AA5 (shown bounded within a circle in the top left of the map). The Two Rocks project report recommended this option.
- 118 In ATCO’s Amended AA Revision Proposal, these options were discussed in Appendix 8.2 which specifically addressed aspects of the Draft Decision, including as it related to the Projects. It noted the decision to proceed with the construction of the 44 km steel pipeline as described in the diagram above.
- 119 In the Amended AA Revision Proposal, ATCO indicated that the option was chosen to provide greater security of supply to current and future customers including to over 60,000 existing customers in the northern networks.
- 120 ATCO indicated that the construction of a new pipeline was required to reduce the supply risk, which it considered “High” to an acceptable level, by introducing a secondary supply of gas of sufficient capacity to an area that is currently vulnerable due to its reliance on a single supply.
- 121 In addition to the loss of supply to domestic customers, there are 635 small commercial customers and 29 large commercial customers it considered would be affected.
- 122 Broadly, therefore, the option was considered as a risk reduction measure against the possibility of a loss of supply. As discussed below, ATCO’s classification of that risk as “High” is disputed by the ERA.

THE PEEL PROJECT

- 123 In a similar way to the Two Rocks project, in 2013 ATCO prepared the ‘Project Feasibility Study: Peel Region Long Term Growth Strategy’ in relation to the Peel project (**‘Peel project report’**). It noted that the Peel region is expecting a significant growth in new residential and commercial developments including in Austin Lakes. The report discussed the options to connect the proposed developments in Austin Lakes as well as the future developments in the Peel region.
- 124 It identified that the Greenfields developments noted in Directions 2031 are predominantly along Pinjarra road. It noted that “[t]he route of the proposed pipeline along Pinjarra Rd has been strategically selected to accommodate the Greenfields developments.... This will allow the new developments to easily connect to the gas network without extensive mains extension”. The ERA pointed to this statement in support of its view that the Peel project was in reality a growth project and not one directed at addressing security of supply.
- 125 The Peel project report canvassed three options. The Amended AA Revision Proposal indicates that the Peel project was proposed to address the loss of supply risk in the Peel region. This includes the loss of supply to over 34,000 customers in the Mandurah gas network. It also stated that in addition to the loss of supply to domestic customers there are 437 small commercial customers and eight large commercial customers affected.
- 126 The Amended AA Revision Proposal suggested that what was ultimately proposed was a three-stage project. It indicates that the project was selected after consideration of risks to reliability and security of supply identified in the Mandurah area and was ultimately proposed by ATCO in combination with the reinforcement of the existing spur line from the Fairbridge gate station supplying Pinjarra, and an extension of the line from Pinjarra in a north-westerly direction through Greenfields to Mandurah, where it would connect with the Rockingham High Pressure line.
- 127 The first stage is 3.2 km of high pressure main commencing with reinforcement from the Fairbridge gate station (GS011) to Pinjarra. The two further stages of 7 km and 15.6 km extend a new spur line to Greenfields and Mandurah. The location of the Peel project is shown in the following map:



128 ATCO considered that the growing Pinjarra area could not be adequately served by its present supply as the supply to Mandurah is currently largely dependent on a single spur line, originating at the Mandurah gate station (GS025) travelling west along Redheads Road to a point north of Mandurah. ATCO considered that the reliability and security of supply to the areas south of this spur line, including the Greenfields area, require improvement.

129 Therefore, like the Two Rocks Project, the Amended AA Revision Proposal indicated that the Peel Project was designed to address the possibility of the loss of supply, including to over 34,000 customers in the Mandurah gas network. In addition to the loss of supply to domestic customers, ATCO said that there are 437 small commercial customers and eight large commercial customers affected. Like Two Rocks, ATCO identified the risk of loss of supply to the Mandurah network as “High”. As discussed below, ATCO’s classification of that risk as “High” is disputed by the ERA.

INTERDEPENDENCY PROJECTS

130 As part of its annual asset management plan review, ATCO identified five interdependency projects it considered were necessary to reduce “High” loss of supply risk due to their relative size and location within the network and options to isolate in the event of interruption to supply. In Appendix 8.2 of the Amended AA Revision Proposal, ATCO pointed to three options, one of which is a ‘do nothing’ option.

131 One option involves constructing pipelines and regulating facilities which will reinforce isolated networks which have the potential to lose supply to over 25,000 customers for a long term period.

132 Another option involves increasing operational maintenance and third party damage mitigation initiatives by increased maintenance frequency of assets and increased frequency of patrols for third party interference.

133 ATCO's classification of that risk as "High" is again disputed by the ERA.

134 In summary therefore, across the three Projects, ATCO identified aspects of the network that gave rise to a risk of supply interruption, in the event of pipeline failure, to more than 25,000 customers. This resulted in a risk, the consequence of which was "Catastrophic" according to ATCO's risk matrix. ATCO then characterized the "Catastrophic" risk case having a "Remote" frequency. Therefore, under AS 4645 and its Risk Matrix, a "Catastrophic" risk with a "Remote" consequence resulted in the identification of a "High" risk ranking, for each of the Projects.

Regulatory decision

ATCO's AA Revision Proposal and Amended AA Revision Proposal

135 In March 2014, ATCO submitted its AA Revision Proposal to the ERA.

136 In relation to the Two Rocks project and the Peel project, the following appeared in the "Asset performance and safety" section of the AA Revision Proposal:

Security of supply – HP spur lines

New high pressure spur lines and pipelines are primarily demand-related capital expenditure. However, the forecast investment also provides security of supply to new and existing customers. Therefore, a proportion of the infrastructure costs are allocated to network sustaining capital forecasts. These spur lines are discussed in detail in section 8.5.2(b) below.

137 In the "Growth capital forecast" section of the AA Revision Proposal, ATCO sought to provide justification for network growth capex. Section 8.5.2(b) was entitled "Demand related capital". The first two "key demand related projects" ATCO identified were the Two Rocks and the Peel projects. In relation to the Two Rocks project, ATCO said:

To ensure continuity of gas supply, ATCO Gas Australia will construct a 44 km steel pipeline...The proposal will also accommodate potential consumers from developments in the North West Metropolitan region, predicted by the WA Department of Planning to be a high growth area over the next 20 years.

...
The construction of this pipeline in conjunction with the interdependency project described above will provide security of gas supply to North Metropolitan high pressure networks in accordance with AS/NZS 4645. It will also reduce the risk of loss of supply to as low as reasonably practicable in accordance the Safety Case. This option will also accommodate greenfield developments in the North West region.

138 In relation to the Peel project, ATCO said:

The Peel Region is expecting significant growth in greenfield residential and commercial developments. This pipeline is essential to economically grow the gas network and has the capacity to supply gas to future domestic and commercial developments in the Peel region. Directions 2031 forecasts the Peel region will grow by an additional 10,750 residential dwellings and several industrial sites in West Pinjarra, Greenlands and Waroona.

139 ATCO's justification for these projects in the AA Revision Proposal was therefore broadly consistent with the reasons presented in the Two Rocks project report and the Peel project report.

140 Appendix 8.2 of the Amended AA Revision Proposal provided the ERA with further information in relation to ATCO's requirement for the Interdependency, Two Rocks and Peel projects:

The requirement for the Interdependency, Two Rocks and Peel projects are to reduce risk from High for a loss of supply incident on high pressure infrastructure affecting greater than 25,000 customers. Currently the areas covered by the proposed projects have single source critical high pressure feeds, where the construction of secondary high pressure feeds reduces the assessed risks to an acceptable level.

To not address the High loss of supply risks would result in a breach of AS4645, the Safety Case and likely action from EnergySafety.

141 Although the Projects were expressed as a measure designed to address security of supply, clearly growth impacts also informed the decision:

When assessing the merit of individual projects, AGA considers the specific immediate and short term asset needs. However, to ensure that future growth investment is undertaken as efficiently as possible considerations of future needs are also taken in to account. Where it is efficient to do so, AGA will look to achieve both security of supply and future growth objectives.

In designing Two Rocks and Peel spur line projects to meet security of supply requirements, AGA has considered growth factors in the area and where possible increased the scope of the security of supply projects to ensure future growth can be accommodated to avoid higher future costs of supporting future growth through an additional standalone project.

142 The ERA argued that these statements indicate that the Projects were in fact growth projects not security of supply projects. While ATCO did not deny that the Projects had a growth

element, it proposed to deal with the dual nature of the costs attributable to them in the following way:

In the AAI, where a project achieved both security and future growth objectives, the costs were allocated to the sustaining and growth investment categories on the basis of an NPV assessment. AGA conducted an NPV assessment of the project costs and future load and allocated the total amount of the project that enabled a neutral NPV value to growth. AGA considered that this provided a higher threshold test when considering projects against NGR 79 (2). The balance of the forecast expenditure for these projects was included in the sustaining capital expenditure category to be assessed in accordance with NGR 79 (2) (c).

Although AGA considers that its approach to categorising expenditure on shared objective projects remains appropriate, the following sections provide the stand alone security project assessments.

These assessments demonstrate that the cost of undertaking discrete projects to achieve the security and growth objectives is greater than the projects costs proposed by AGA. An alternative method of allocation might include adopting the stand alone security project costs as the costs to be allocated to sustaining capital expenditure and only allocate the incremental cost of a joint project to the growth project. This increases the NPV for the costs to be allocated to growth investment.

143 ATCO provided a confidential table in which it provided a comparison of the project costs to be allocated between growth and sustaining capex based on ATCO's method adopted in the AA Revision Proposal and the alternative method outlined above.

Experts' reports

144 Prior to considering the ERA's decision and ATCO's responses, it is worth noting that the ERA relied heavily on its expert consultant, Energy Market Consulting Associates ('EMCa'). Similarly, ATCO relied heavily on its expert Zincara Pty Ltd ('Zincara') in responding to the ERA and to EMCa. In many respects, the position of each party is intimately tied to the opinions and conclusions of their respective experts. For that reason it is necessary to consider each report in some detail later.

145 In June 2014, EMCa prepared a report for the ERA titled "ATCO Gas Australia Proposed Access Arrangement for the Mid-West and South-West Gas Distribution Systems: Review of Technical Aspects of the Proposed Access Arrangement" ('EMCa report'). EMCa also prepared two separate addendums; the first in April 2015 ('April addendum') and the second in June 2015 ('June addendum'), each at the request of the ERA and in response to submissions made by ATCO. The April addendum assessed the Amended AA Revision Proposal. It canvassed whether the information provided by ATCO or third parties engaged

by ATCO, changed the conclusions reached in the EMCa report. For the most part, EMCa's June addendum traversed matters and conclusions which are broadly similar to those reached in the EMCa report and the April addendum.

146 On 25 November 2014, Zincara prepared a report for ATCO titled "Review of ATCO Gas Australia Capital and Operating Expenditure" (**'Zincara report'**).

147 A minor preliminary issue in relation to these expert reports concerns the qualifications (and by implication, the expertise) of the authors of the EMCa report and the Zincara report.

148 The EMCa report was prepared by a team comprising senior management with expertise in economics and engineering across both gas and electricity. The April addendum included an additional member of the EMCa team – an engineer and business manager with 31 years' experience in strategic planning, maintenance, operation and expansion of gas distribution businesses.

149 The Zincara report was prepared by a director and an associate of Zincara. The director is an engineer with more than 35 years' experience in the energy sector, specialising in, among other things, business planning, implementation of utilities reforms, establishing organizations for privatisation, operating and capital cost reviews. The associate is also an engineer with more than 28 years' experience in the gas industry.

150 The principal difference in expertise is that the Zincara authors have engineering qualifications alone, while the EMCa authors have qualifications in both engineering and economics. On the basis of this, the ERA therefore invited the Tribunal to conclude that the qualifications of the EMCa team 'trump' that of Zincara.

151 The Tribunal has not taken up this invitation. Rather, it has considered each report based on the strength of the arguments and evidence presented in each and given them weight accordingly.

The ERA's Draft Decision

152 The ERA published its Draft Decision on 14 October 2014.

153 The Draft Decision notes that the ERA retained EMCa to assess ATCO's proposed capex, opex and governance processes. In relation to capex, the ERA (relying on advice from EMCa) assessed ATCO's proposed capex forecast under the NGR, by applying a three-stage process:

- *first*, evaluate whether the expenditure is justifiable on the grounds set out in r 79(2) of the NGR;
- *second*, consider whether the expenditure satisfies the prudent service provider test set out in r 79(1)(a) of the NGR; and
- *third*, assess whether forecasts or estimates comply with r 74(2) of the NGR.

154 As will be seen, this process is the same as that applied by EMCa. Under this approach, the ERA first considered whether any of the proposed expenditure satisfied one of the heads of expenditure in r 79(2), before turning to consider the test in r 79(1)(a) and then r 74(2). That is, the ERA considered that the expenditure must satisfy all three of these processes before that expenditure would be permitted to be included in the building blocks - it was not sufficient if it satisfied r 79(2) but failed r 79(1)(a).

155 The ERA noted EMCa's assessment that the Projects had not undergone a cost-benefit analysis and the risk thresholds for "Catastrophic" events applied by ATCO are lower than other gas distribution networks:

EMCa has assessed the Safety Case, FSAs and the risk thresholds that ATCO has adopted when applying the ALARP test to security of supply projects, and has the following concerns:

- *ATCO has not conducted a cost benefit analysis.*
- *ATCO has adopted a risk threshold for catastrophic events that appears to be lower than the threshold employed by other gas distribution networks. EMCa considers that the risk threshold that ATCO has adopted of 25,000 customers for loss of supply to be catastrophic is not prescribed in AS/NZS4645 and AS2885, nor mandated by EnergySafety, and is low by industry standards.*

156 In concluding that ATCO had adopted a risk threshold which was "Low" when compared with other gas distributors and not prescribed by AS 4645 or mandated by EnergySafety, EMCa (although not expressly stating) must have considered that the consequence should be lower than "Catastrophic".

157 Relying on EMCa's advice, the ERA was therefore not satisfied that the Projects were justified under the test in r 79(1)(a) or under any head under r 79(2):

Based on EMCa's advice, the Authority is not satisfied that the security of supply related portion in asset performance and safety (\$86.34 million) is consistent with good industry practice as required by rule 79(1)(a) of the NGR. Therefore, the Authority is not satisfied that the following projects are justified under any ground in rule 79(2) of the NGR:

- *Two Rocks Spur line (\$18.13 million);*
- *Peel Spur Line (\$20.93 million); and*
- *interdependency projects (\$47.29 million).*

ATCO's response to the Draft Decision

158 ATCO's Amended AA Revision Proposal can broadly be summarised as follows:

- ATCO maintained that the portion of the capex proposed for the Two Rocks project and the Peel project that it attributed to growth was justified under r 79(2)(b).
- ATCO maintained that the portion of the expenditure proposed for the Two Rocks project and Peel project that it attributed to sustaining capex was justified under r 79(2)(c)(i), (ii), and (iii).
- ATCO reassessed the proposed Interdependency Projects and decided that six of them could be deferred, reducing the forecast capex from \$47.3 million to \$34 million, and maintained that the remaining four Interdependency Projects were justified under r 79(2)(c).
- ATCO provided the conclusions reached by Zincara in its report of 25 November 2014.
- ATCO provided confidential Appendix 8.1 which included e-mails from an officer of EnergySafety in November 2014.
- ATCO provided a confidential Appendix 8.2, setting out its detailed justification for the three Projects.

The ERA's Final Decision and Amended Final decision

159 The ERA published its Final Decision on 30 June 2015 and Amended Final Decision on 10 September 2015.

160 In relation to sustaining capex, it is sufficient to refer to the Amended Final Decision as it embodies conclusions very similar to those reached in the Final Decision. Like the Draft Decision, the ERA relied heavily on EMCa in reaching its conclusions in the Amended Final Decision. Indeed, a great deal of the Amended Final Decision is devoted to referring to various aspects of the findings and conclusions reached by EMCa and EMCa's criticisms of ATCO, Zincara and the approach taken by EnergySafety.

161 In relation to the Two Rocks project, the ERA agreed with EMCa's risk ranking of "Intermediate" and the actions consequently required under AS 4645:

The Authority accepts EMCa's conclusion that the risk ranking for the 'Northern Networks' is 'intermediate' and not 'high'. The Authority shares EMCa's view that for intermediate risks AS 4645 and the prudent service provider test in rule 79(1)(a)

requires ATCO to diligently consider all options for reducing the risk ranking to Intermediate or lower, applying a cost-benefit analysis test to determine if an Intermediate ranking is ALARP.

As the Authority accepts EMCa's recommendations that the risk ranking for the 'Northern Networks' and 'Two Rocks' is 'intermediate' and not 'high', the Authority considers that:

- *the expenditure is not required for ATCO to comply with rule 79(2)(c)(iii) of the NGR; and*
- *the expenditure that ATCO has proposed to reduce its considered security of supply risk does not satisfy rule 79(2)(c)(i) of the NGR.*
-

162 Similarly, the ERA agreed with EMCa's risk ranking of "Intermediate" for the Peel project in almost identical terms to its conclusion on the Two Rocks project:

As the Authority accepts EMCa's recommendations that the risk ranking for the 'Peel Region' is 'intermediate' and not 'high', the Authority considers that:

- *the proposed expenditure is not required for ATCO to comply with rule 79(2)(c)(iii) of the NGR; and*
- *the expenditure that ATCO has proposed to reduce its considered security of supply risk does not satisfy rule 79(2)(c)(i) of the NGR.*

163 The ERA reached a similar conclusion in relation to the Interdependency projects.

164 As the ERA concluded that the risk ranking for the Projects is "Intermediate", it determined that ATCO should formally reassess its security of supply risk for each Project under the steps specified in Table C4 of AS 4645 for an "Intermediate" ranked risk. The ERA considered that ATCO should submit how it proposes to treat the "Intermediate" risk in the form of a cost pass through which, if accepted, would allow ATCO to commence recovery of these costs (through tariffs) during AA5.

165 The ERA therefore required that ATCO include a cost pass through mechanism in the following terms:

The Authority requires that ATCO include the following clause 3.1(e):

ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of addressing an "Intermediate" security of supply risk following an assessment in accordance with the required steps prescribed in Table C4 of AS 4645 for an 'intermediate' ranked risk. This expenditure can only be passed through for the following areas of the network identified by ATCO in its Response to the Draft Decision: Northern Network, Peel, Hillary's, Canning Vale, Fremantle and Lathlain.

166 A cost pass through mechanism in this form was included in the ERA Access Arrangement as amended at 29 September 2015. It appears in cl 2.1(e) of Appendix B. It is necessary to return to this cost pass through later in these reasons.

EMCa's REPORT ON CAPITAL EXPENDITURE

167 Taken collectively, the EMCa report (with its addendums) is an extensive document. Although the Tribunal has read and considered the EMCa report (and its addendums), what follows are those matters that featured most prominently in the ERA's Draft Decision and Amended Final Decision and on which the substance of the dispute and the parties submissions were based.

168 EMCa adopted a three-step approach in assessing ATCO's capex and opex proposals. First, it considered whether the expenditure was justified on any of the grounds set out in r 79(2). Secondly, it considered whether the proposed expenditure on Projects, justified under r 79(2), satisfied the prudence test in r 79(1)(a). Finally, it considered whether the forecasts or estimates underlying those Projects that are justifiable under r 79(2) and satisfy the prudence service test, have been arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances, as required by r 74(2). It will be noted that this is the approach which the ERA itself adopted, undoubtedly following the approach taken by EMCa.

169 EMCa reviewed the methods employed by ATCO to forecast its capex and opex. Although EMCa found that many aspects of ATCO's approach to forecasting aligned with good industry practice, it considered that ATCO's descriptions of its forecasting approaches for specific expenditure components were vague, listing a range of factors that have been "taken into account" but without defining *how* they were taken into account. EMCa also found significant subjectivity in the way the ATCO managers had made assumptions at detailed levels that then aggregate up to produce the proposed expenditure forecasts. Although not critical of the managers, EMCa considered that such an approach, when applied without strong top-down challenge, is likely to lead to overestimation.

EMCa also considered that ATCO had failed to provide sufficient evidence for its claims of poor or deteriorating performance of aspects of the network or the improvements in performance outcomes that could be expected from the proposed increases in expenditure. EMCa provided the following example:

ATCO was, for example, unable to identify any safety or non-supply incidents relating to "loss of pressure", and the rate of leaks (as indicated by UAFG) has been declining steadily over the past five years, yet despite significantly increased proposed expenditure ATCO does not forecast it to decline further from its most recent level.

170 EMCa asserted that it sought ATCO's business plans for the past four years on the basis that these might provide an insight into ATCO's cost projections. EMCa said that they were not provided. ATCO only provided top-line capex and opex budgets that it advised were extracted from those plans. Those budgets figures are confidential. However, it is sufficient to note that ATCO's capex budget figures for the AA4 are considerably higher than its 2012 and 2013 business plan forecasts for the same years, and are also higher than the capex and opex forecasts in its 2014 business plan. The ERA submitted that the disparity would make one wonder about the validity of the assessment that has been undertaken.

171 EMCa proceeded on the basis that ATCO's Two Rocks project and Peel project contained both growth and sustaining capex elements, with the sustaining element sought to be justified under r 79(2)(c) and its Safety Case.

172 EMCa noted that most of ATCO's increase in expenditure on sustaining capex was being driven by its application of the Safety Case and in particular the FSAs that it has conducted under the Safety Case and the risk threshold it applied to security of supply related projects when carrying out the FSAs. A greater concern for EMCa was ATCO's failure to undertake a cost-benefit assessment when applying the ALARP test under the FSAs, which EMCa considered was required under AS 4645.

173 EMCa indicated that when conducting an FSA, AS 4645 and AS2885 require that, where risks are assessed and categorised as "Intermediate", they must be considered further and only accepted if they satisfy the ALARP test. Importantly, EMCa considered that AS 4645 does not envisage risk mitigation at any cost. Rather, the ALARP test it says requires a cost-benefit analysis to be undertaken and measures implemented only if the costs are justified.

174 EMCa's concern was that ATCO had "not provided any evidence (and confirmed in answer to questions during the on-site meetings) that it has conducted a cost-benefit assessment for any of the projects that have been identified as being required to reduce risks to ALARP as required by AS/NZS 4645 and AS2885".

175 EMCa's further concern related to the risk threshold applied by ATCO, which EMCa considered to be too low:

The second concern we have with ATCO's approach is that the risk threshold it has adopted for catastrophic events appears to be lower than the threshold employed by other gas distribution networks, as highlighted in Table 18. This driving much higher levels of security of supply related expenditure than we would expect to observe, and which are much higher than this business has previously incurred.

Table 18: Risk definitions applied by ATCO vs other regulated gas pipelines

Company	Consequence Category Supply - Catastrophic	Consequence Category Supply - Major
ATCO	Interruption of supply affecting >25,000 customers	Interruption or restriction of supply affecting >5,000 customers
SP Ausnet	>200,000 customers or System Black or loss of supply to entire CBD	>100,000 customers
Multinet	Major disruption of multiple services capacity for greater than 1 month – failure of gas supply	Major disruption of multiple services capacity up 1 month – failure of gas supply
Envestra	Long term loss of supply to mass market >100,000 customer weeks	Short term loss of service to >10,000 customer days
Allgas		

176 EMCa concluded that there is no evidence to support the position that reinforcement is justified to ensure customers do not suffer loss of gas supply due to a single point failure in the ATCO gas distribution network at a threshold of 25,000 customers, when the likelihood of such an event attributable to a distribution network failure is in EMCa view, extremely low. It considered that the continued application of this threshold has the potential therefore to result in inefficient over-investment in the network and concluded:

It follows from the preceding discussion that we are not satisfied that the threshold ATCO has employed when assessing the need for security of supply related expenditure is consistent with good industry practice as required by rule 79(1)(a). Nor are we satisfied that ATCO has properly applied the ALARP test given that there is no evidence it has undertaken a cost benefit assessment either when setting its risk threshold or when assessing whether to proceed with the proposed security of supply projects. We have therefore carefully examined those security of supply related projects, which are contingent on this threshold.

177 As this passage indicates, as ATCO failed to undertake a cost-benefit analysis, EMCa carefully scrutinised the Projects. EMCa was not satisfied with the capex attributable to the Interdependency project:

According to the information provided by ATCO these projects are only being proposed to satisfy its 25,000 customer at risk threshold, which as noted above is lower than industry standards. In some cases the costs of carrying out individual projects also appear to be disproportionate to the reduced risk that would result...

178 EMCa was similarly dissatisfied with the capex attributable to the Two Rocks project:

In this case ATCO has assumed a 60,000 customer threshold. While the threshold

applied in this case is higher, the costs associated with reducing the risk of a supply interruption to 60,000 customers still appear disproportionate to the reduced risk that would result from building the spur line, with the costs of carrying out the project forecast to be in excess of \$300 per customer.

179 Additionally, EMCa considered that ATCO had not satisfactorily justified the growth component of the Two Rocks project. Therefore, disallowing some of the costs of this Project on that basis placed a further burden on the need to justify it on security of supply grounds as claimed.

180 EMCa was also not satisfied with the capex in relation to the Peel project:

In this case ATCO has assumed a 29,000 customer threshold. In a similar manner to the other projects, the costs associated with reducing the risk of a supply interruption to 29,000 customers appears disproportionate to that would result from building the spur line, with the costs of carrying out the project forecast to be in excess of \$720 per customer.

181 However, EMCa was not suggesting that these Projects could never be justified. It indicated what would be required to justify the costs attributable to them:

Although we cannot accept that these projects (or the security of supply related portion of these projects), which total \$86.3m, are justified under rule 79(2) based on the information that ATCO has provided in its AA, this should not be taken as a finding that these projects could never be justified. We would expect though that any assessment that ATCO may choose to respond in response to the ERA's Draft Decision would be conducted in accordance with good industry practice. This should include:

- distinguishing between events that have a direct safety consequence for employees, customers and/or the wider public and events that primarily have a potential loss of supply impact;*
- evidence-based assessment of risk likelihood;*
- evidence of consideration of risk mitigation measures; and*
- the assessment of proposed projects by reference to consideration of costs and benefits as is required by the aforementioned standards.*

182 As this passage makes clear, EMCa maintained its view that for these Projects to be justified, they must undergo a cost-benefit analysis.

183 Overall, therefore, EMCa's main findings can conveniently be summarized as follows:

- ATCO has not provided sufficient evidence of existing performance issues or justified the significant increases in capex and opex that it proposes, nor has it been able to show how performance outcomes would improve as a result of such higher levels of expenditure. The proposed expenditure in these instances fails to satisfy several components of NGR rule 79 and of rule 91(1);*
- In several categories of expenditure, ATCO's proposed increased expenditure requirements are inconsistent with its chosen current actual expenditure levels and its most recent business plans prior to its AA4 budgeting. In these cases, the proposed expenditure fails to satisfy rule*

- *79(1)(a); ATCO's devolved approach to budgeting has not been subject to sufficiently rigorous top-down challenge. In our experience, bottom-up budgets that are not subject to a rigorous top-down challenge process are more likely to be over-estimated. In these cases, the proposed expenditure fails to satisfy rule 79(1)(a) and rule 9(1);*
- *Significant drivers such as the criteria used in claiming justification for expenditure based on ATCO's Safety Case, have not been adequately justified by reference either to fundamental impact analysis or to peer benchmarks. The use of these criteria has led ATCO to propose significant increases in expenditure. The relevant proposed expenditure fails to satisfy rule 79(1)(a); and*
- *ATCO's project costings and volume activity costings appear reasonable. In the relevant instances, the expenditure satisfies rule 79(1)(a) and 91(1).*

Areas of dispute

184 It is useful at this stage to set out the areas of dispute.

185 ATCO indicated in its Amended AA Revision Proposal that the Two Rocks, Peel and Interdependency projects are designed to reduce risk from "High" for a loss of supply incident on high pressure infrastructure affecting greater than 25,000 customers. It maintained that not addressing the "High" loss of supply risks would result in a breach of AS 4645, the Safety Case and likely action from EnergySafety.

186 ATCO therefore contended that the capex in question is justified under the following heads in r 79(2):

- (1) to maintain and improve the safety of services: r 79(2)(c)(i);
- (2) to maintain the integrity of services: r 79(2)(c)(ii); or
- (3) to comply with a regulatory obligation or requirement: r 79(2)(c)(iii).

187 The ERA was not satisfied that r 79(2)(c)(iii) has been met for any of the Projects. Similarly, it was not satisfied that ATCO has complied with r 79(2)(c)(ii) in respect of the Peel project and the Interdependency project. ATCO submitted that the ERA did not address the application of r 79(2)(c)(ii) in relation to the Two Rocks project. The ERA also considered that r 79(2)(c)(i) had no application to the Projects.

188 It should be noted that the ERA rejected the growth components of the Projects. ATCO no longer seeks a review of that outcome.

189 ATCO argued that the claimed capex satisfies the prudence test in r 79(1)(a). The ERA disputed this.

190 In reaching these conclusions, ATCO therefore contended that the ERA made a series of factual errors, incorrectly exercised its discretion or made decisions which were unreasonable having regard to all the circumstances. In order to demonstrate each area of failure, ATCO identified several specific matters running to many paragraphs in its Review Application and supporting submissions – a ‘list’ of failures.

191 Were the Tribunal to simply reproduce that extensive list it would not be conducive to a meaningful understanding of the core issues in dispute. The Tribunal has noted the grounds of review raised by ATCO in its application and supporting submissions. However, to enable those issues to be more efficiently addressed, the Tribunal has grouped them into specific topics - which in any case, closely follow the submissions of ATCO and the ERA.

192 The Tribunal has adopted this approach also because (with some small differences) the ERA agreed with ATCO that its reasons for rejecting ATCO’s sustaining capex across each of the Projects were essentially similar. This also means that the Tribunal need only consider the areas in dispute by reference to a single Project – and the others, only to the extent that there are differences that require specific mention.

193 Adopting this approach, the areas that ATCO claimed the ERA was in error can be grouped as follows:

- (1) The ERA’s failure to accept that the Projects satisfied one or more limbs of r 79(2)(c);
- (2) The ERA’s failure to consider the application of r 79(2)(c)(ii) to the Two Rocks project;
- (3) The ERA’s failure to accept that the Projects satisfied the prudency test in r 79(1)(a);
- (4) The ERA’s requirement for a cost-benefit analysis to demonstrate compliance with the prudency test in r 79(1)(a) and its rejection of ATCO’s view that a quantitative assessment was not necessary;
- (5) The ERA’s downgrading of ATCO’s risk ranking from “High” to “Intermediate” and the consequences which would follow;
- (6) Assuming the ERA was correct to assess the risk as “Intermediate”, the ERA was wrong to suggest that a cost-benefit analysis of options was required to satisfy the ALARP test;

- (7) The ERA's failure to determine that a proper application of AS 4645 (as varied by ATCO's Risk matrix) results in ATCO being obliged under its Safety case to undertake the projects;
- (8) The ERA's requirement that ATCO assess its projects under the cost-pass through mechanism for an "Intermediate" risk imposed under the Final Decision.

194 The Tribunal considers that the issues raised by the errors identified by ATCO can be conveniently dealt with under a discussion of the following topics:

- Rule 79(2)(c)(iii) – Compliance with a regulatory obligation or requirement;
- The nature of the analysis required under AS 4645;
- The operation of r 79(2)(c) and r 79(1)(a);
- The risk thresholds applied by ATCO; and
- The ERA's failure to consider the application of r 79(2)(c)(ii) to the Two Rocks Project and the Peel Project.

The Tribunal will then separately consider the ERA's determination to require ATCO to assess its Projects under a cost-pass through mechanism.

Consideration

Rule 79(2)(c)(iii) – compliance with a regulatory obligation or requirement

195 ATCO submitted it was under a "regulatory obligation or requirement" under r 79(2)(c)(iii) to undertake the Projects and that the expenditure on them was conforming expenditure. While the expression "regulatory obligation or requirement" is not defined in the NGR, it is the expression defined in the NGL.

196 ATCO reached the conclusion that it was under a regulatory obligation or requirement by the following process of reasoning:

- (1) Section 28(1)(a) of the NGL requires the ERA, in making an Access Arrangement Decision, to do so "in a manner that will or is likely to contribute to the achievement of the national gas objective". The NGO is defined in s 23 of the NGL as follows:

The objective of this Law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

(2) Under s 28(2)(a)(i) of the NGL, in exercising a discretion in approving or making those parts of an access arrangement relating to a reference tariff, the ERA must take into account the RPP in s 24 of the NGL, which it is convenient to set out again:

- (1) *The revenue and pricing principles are the principles set out in subsections (2) to (7).*
- (2) *A service provider should be provided with a reasonable opportunity to recover at least the efficient costs the service provider incurs in—*
 - (a) *providing reference services; and*
 - (b) *complying with a regulatory obligation or requirement or making a regulatory payment.*
- (3) *A service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. The economic efficiency that should be promoted includes—*
 - (a) *efficient investment in, or in connection with, a pipeline with which the service provider provides reference services; and*
 - (b) *the efficient provision of pipeline services; and*
 - (c) *the efficient use of the pipeline.*
- (4) *Regard should be had to the capital base with respect to a pipeline adopted—*
 - (a) *in any previous—*
 - (i) *full access arrangement decision; or*
 - (ii) *decision of a relevant Regulator under section 2 of the Gas Code;*
 - (b) *in the Rules.*
- (5) *A reference tariff should allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which that tariff relates.*
- (6) *Regard should be had to the economic costs and risks of the potential for under and over investment by a service provider in a pipeline with which the service provider provides pipeline services.*
- (7) *Regard should be had to the economic costs and risks of the potential for under and over utilisation of a pipeline with which a service provider provides pipeline services.*

(3) Thus, s 24(2)(b) of the NGL requires that a service provider be provided with a reasonable opportunity to recover at least the efficient costs it incurs in complying with a regulatory obligation or requirement or making a regulatory payment.

(4) Under s 6(1) of the NGL, a “regulatory obligation or requirement” includes the following:

- (a) in relation to the provision of a pipeline service by a service provider—
 - (i) a pipeline safety duty; or
 - (ii) a pipeline reliability standard; or
 - (iii) a pipeline service standard; or
 - (b) an obligation or requirement under—
 - (i) this Law or the Rules; or
 - (ii) an Act of a participating jurisdiction, or any instrument made or issued under or for the purposes of that Act, that levies or imposes a tax or other levy that is payable by a service provider; or
 - (iii) an Act of a participating jurisdiction, or any instrument made or issued under or for the purposes of that Act, that regulates the use of land in a participating jurisdiction by a service provider; or
 - (iv) an Act of a participating jurisdiction or any instrument made or issued under or for the purposes of that Act that relates to the protection of the environment; or
 - (v) an Act of a participating jurisdiction, or any instrument made or issued under or for the purposes of that Act (other than national gas legislation or an Act of a participating jurisdiction or an Act or instrument referred to in subparagraphs (ii) to (iv)), that materially affects the provision, by a service provider, of pipeline services to which an applicable access arrangement applies.
- (5) Section 2 of the NGL defines “pipeline reliability standard” and “pipeline safety duty” in the following terms:

***pipeline reliability standard** means a standard imposed by or under an Act of a participating jurisdiction, or any instrument made or issued under or for the purposes of that Act, relating to the reliable haulage of natural gas in that jurisdiction;*

***pipeline safety duty** means a duty or requirement under an Act of a participating jurisdiction, or any instrument made or issued under or for the purposes of that Act, relating to—*

- (a) *the safe haulage of natural gas in that jurisdiction; or*
- (b) *the safe operation of a pipeline in that jurisdiction*

- (6) The expression “regulatory obligation or requirement” also extends to an obligation or requirement under an Act (or instrument under an Act) which materially affects the provision of pipeline services via the relevant pipeline: s 6(1)(b)(v).
- (7) The interpretation of the NGL, the regulations under it, and the NGR is governed by the interpretation principles in Sch 2 to the NGL: s 20 of the NGL. Clause 13 in Sch 2 provides that, subject to a contrary intention, expressions defined in the NGL (such as “regulatory obligation or requirement”) are to be taken to mean the same as such terms in statutory instruments (such as the NGR).

197 ATCO submitted that no contrary intention appears in the NGL, the regulations, or the NGR indicating that the term “regulatory obligation or requirement” should have a meaning in the NGR which is different from the meaning of that term in the NGL. By this process of reasoning, ATCO maintains that the term “regulatory obligation or requirement” in r 79(2)(c)(iii) has the same meaning as that term in the NGL. Therefore, the expression “regulatory obligation or requirement” under the r 79(2)(c)(iii) is said to include a “pipeline safety duty” as defined in the NGL.

198 ATCO therefore considered that it was under a regulatory obligation or requirement if it was under a pipeline safety duty or requirement. ATCO said that this duty or requirement arises under its Safety Case (as approved by EnergySafety) and under Western Australian laws; relevantly the Regulations.

199 For now, the Tribunal is prepared to assume (without deciding) that ATCO is under a regulatory obligation or requirement. However, for the reasons discussed below, that does not of itself mean that the claimed sustaining capex is permitted.

ENERGYSAFETY

200 ATCO placed considerable reliance on input it received from an officer of EnergySafety in support of its capex relating to the three Projects.

201 The identity of the EnergySafety officer is not material. It is sufficient to note that the officer has an engineering background. ATCO did not suggest the officer had expertise in any other area. Neither party questioned the officer’s authority to respond on behalf of EnergySafety. For that reason, the officer’s response will be considered that of EnergySafety and will be referred to in that way.

202 There were a number of e-mail exchanges between ATCO and EnergySafety in November 2014. On 14 November 2014, EnergySafety sent an e-mail to the ERA, in response to the Draft Decision “to ensure that ATCO is given an opportunity to continue to comply with the technical regulatory requirements and its associated safety case.”

203 In that e-mail, EnergySafety reached several conclusions and made several recommendations. First, EnergySafety appeared to conclude from the Draft Decision that the Projects would not proceed:

- 4) *In the draft decision the report would indicate that these projects are not going to proceed and in that justification, it would further appear that the draft decision has used the risk model of AS/NZS2885.1: Pipelines-Gas Liquid and Petroleum and a Quantitative Risk Assessment.*

204 The conclusion demonstrates a misunderstanding of the scheme of regulation under the NGR. The Draft Decision, of course, does not prevent ATCO from proceeding with the Projects. What the ERA was suggesting in the Draft Decision is that it would not allow the capex associated with those projects to be included in the building blocks used to set reference tariffs, as it was not satisfied it complied with the NGR.

205 The Tribunal also does not accept EnergySafety’s conclusion that the ERA only considered and used AS/NZ 2885.1, suggesting it was the only standard it considered. In its Draft Decision, the ERA refers to both standards in reaching its conclusion. This is consistent with EMCa’s advice where it also considered both standards in reaching its conclusion. In its April addendum, EMCa explained its reasons for referring to AS 2885:

We reject EnergySafety’s conclusion that we relied upon AS 2885 in our assessment of ATCO’s proposed AA4 sustaining capex projects. We referred only to that standard to assist in interpreting the guidelines in Appendix C of AS 4645, given that they do not appear to contemplate risk mitigation options of the scope, scale and cost proposed by ATCO. AS 2885 applies to high pressure gas transmission pipelines and risk treatments can often incur significant costs. Ultimately and primarily, ATCO must comply with AS 4645, not AS 2885.

206 EnergySafety then commented on the application of the standards and concluded that the wrong standard has been applied:

- 5) *If operating under AS/NZS 2885, which ATCO is not, an operator may conduct a quantitative risk assessment (cost/benefit analysis) that would allow, in some circumstances, acceptance of a higher risk threshold. i.e. if it is proved that the current mitigation strategies were indeed ALARP or using the terminology - “Tolerable”. In other words, any capital spent on lowering the risk of a loss of supply event would be disproportionate to the added gain. In contrast AS 4645 does not cater for this level of quantitative scrutiny. This information can be obtained by putting the 2 risk models side by side.*

- 6) *AS/NZS2885 applies to high pressure gas transmission pipelines. AS/NZS4645 applies to Gas Distribution Networks. It is not feasible to adopt the risk model of AS/NZS2885 to regulate networks that require compliance to AS/NZS4645.1 as the conditions under which these apply are vastly different.*
- 7) *In other words the wrong risk model has been used to arrive at this draft decision disallowing the ATCO proposed network reinforcement projects.*

207 For the reasons stated above the Tribunal rejects the conclusion reached by EnergySafety at paragraphs 6 and 7 of its e-mail above.

208 Later, EnergySafety commented on the nature of the assessment required under AS 4645:

Re 6) AS/NZS4645.1:2008 relates to gas distribution networks that are by their very nature in densely populated areas, that are also under continued high levels of risks from third party interference and operate at pressure and flow scenarios that can be managed safely in a practical and cost effective manner. Therefore only a qualitative risk model has been adopted in AS/NZS4645.

Re 7) A quantitative risk assessment (QnRA) does not form part of AS/NZS4645 and a QnRA was used to justify the preclusion of these projects.

209 ATCO relied on this statement in support of its view that AS 4645 does not require a cost-benefit analysis, and accordingly, it was not in error in not commissioning one in relation to the Projects. However, EnergySafety's conclusion that AS 4645 does not cater for quantitative scrutiny is not supported by any compelling analysis undertaken by EnergySafety, other than it seems, the view of EnergySafety. EnergySafety's conclusion is also unconvincing because it has not considered the question of whether a quantitative analysis is required by any provision of the NGR, quite separately to AS 4645.

210 EnergySafety appeared to conclude that were the Draft Decision applied, it may place ATCO in breach of the Regulations:

- 8) *If ATCO would conform to the draft decision then they will be breaching the Gas Standards Act 1972 immediately when such access arrangement becomes effective. Because the risk of a loss of supply event is high to extreme, ATCO is then unquestionably obliged to mitigate to a lower, acceptable risk level. The Draft Decision in effect directs ATCO into non-compliance with AS/NZS 4645 and is considered untenable from a technical and safety regulatory point of view.*

211 EnergySafety's comments above further demonstrate a misunderstanding of the Draft Decision and the role of the ERA. The Draft Decision does not excuse ATCO from compliance with the Regulations nor does it, of its own operation, place ATCO in breach of

the Regulations. The ERA merely concluded that it was not satisfied that the costs of the Projects claimed by the ERA met the requirements of the NGR. The statement also failed to indicate the process by which EnergySafety reached the conclusion that the risk of loss of supply is “High” to “Extreme” or the evidence available or relied on in support of that conclusion.

212 EnergySafety also explored the risk ranking reached by ATCO:

A notifiable incident is defined in the Gas Standards (Gas Supply and System Safety) Regulations 2000 (GSR) as “an incident, event or other thing of which the Director requires notification under regulation 34.” Looking through the lens of the Draft Decision in particular, para 451, EMCa states that, in its view, ATCO’s adopted risk threshold of a catastrophic event of a loss of 25,000 to be “low by industry standards.” Under the severity classes in AS/NZS 4645 Table C1, a supply catastrophic event is defined as a “long term interruption of supply.” According to GSR reg 43(1)(c), EnergySafety considers a loss of a major customer exceeding 50 TJ/year or 100 other customers to be considered a notifiable incident. This is 250+ times less than the risk threshold mentioned by EMCa. Considering the urban sprawl in the WA metropolitan areas with critical customers dispersed within it, such as hospitals, NG bus depots and schools, it is this office’s view that ATCO’s threshold of 25,000 is, if anything, too high contrary to the belief of EMCa.

Therefore, ATCO’s assessment of a “catastrophic” loss of such supply event (sic) t around 25,000 customers is accepted by EnergySafety.

213 Regulation 43(1)(c) to which EnergySafety refers, requires a network operator to notify the Director of any unplanned interruption of the supply of gas to any consumer whose annual gas consumption usually exceeds, or can reasonably be expected to exceed 50TJ, or to at least 100 customers. Therefore, when the passage refers to this being “250+ times less than the risk threshold mentioned by EMCa”, it is a reference to ATCO’s supply risk threshold of 25,000 customers which is ‘250’ multiplied by the 100 customers mentioned in reg 43(1)(c). It is on that basis that EnergySafety concluded that ATCO’s threshold was if anything, too high. It is also for that reason that EnergySafety accepted ATCO’s classification of “Catastrophic” as a loss of supply to around 25,000 customers.

214 The e-mail noted that plastics gas mains are inadvertently dug-up and damaged on a regular basis and referred to a recent example impacting in excess of 700 customers. It also explained that steel mains can be damaged, though it suggested that the potential for this to occur is lower due to the strength of the material and the frequency of vehicle patrols inspecting the pipelines for nearby construction activity.

215 The e-mail therefore concluded that a loss of supply event cannot be classified as “Hypothetical” because it has been proven that a loss of supply event is indeed possible on

steel mains. Table C2 of AS 4645 defines “Hypothetical” as “Theoretically possible but has never occurred on a similar gas distribution pipeline”.

216 However, it is unclear when the email refers to a “proven” event of damage whether there have been actual examples of damage to comparable steel gas networks that would take it outside the descriptor of a “Hypothetical” event.

217 EnergySafety’s email concludes with the following recommendation to the ERA:

EnergySafety respectfully requests that the Economic Regulatory Authority reviews its decision making processes and consider reversing the current Draft Decision that prevents ATCO remedying the major predictable supply interruptions it has successfully identified and in doing so reinforce the gas distribution network.

218 EnergySafety sent a second e-mail to the ERA on the 14th November 2014 in which it outlined significant safety concerns “that may arise from the restriction imposed on ATCO disallowing it to expand its network on economic grounds.”

219 On 22 November 2014, EnergySafety sent an e-mail to ATCO in which it stated:

1. *ATCO has to comply with the Safety Case which links to AS4645.1*
2. *Any scenario that involves 20-25,000 customers or more is considering the duration of the interruption, is classified as catastrophic to severe.*
-
4. *No cost benefit analysis is accepted to justify not taking action as AS/NZS4645 is qualitative only.*

220 The Tribunal has already commented on the conclusions reached by EnergySafety in paragraphs 1 and 4 of the e-mail of 22 November 2014 above. The findings and statements of EnergySafety are not compelling for the reasons discussed and the ERA and EMCa were entitled to give them little weight.

221 However, the Tribunal is in no way critical of EnergySafety. EnergySafety is a safety body and the officer, an engineer. It would not be expected that EnergySafety have an understanding of the process of economic regulation prescribed by the NGL and NGR.

The nature of the analysis required under AS 4645

222 As indicated, the Regulations require that the Safety Case comply with a number of specified standards, including AS 4645. ATCO’s Safety Case is expressed to comply with AS 4645. Much of the battle of the parties and their consultants was therefore directed at what AS 4645 required. A recurring and polarising issue is whether AS 4645 relevantly requires a qualitative analysis (as ATCO argued) or a cost-benefit analysis as the ERA argued.

223 There is a considerable lack of precision in the way both EMCa and Zincara described the source of the analysis required. It is unclear whether EMCa was asserting that a cost-benefit analysis is required:

- by AS 4645 (as part of the overall framework of that standard);
- as part only of the ALARP test for an “Intermediate” ranked risk;
- as a requirement of r 79(2)(c) itself;
- by the operation of the prudence test in 79(1)(a); or
- through a combination of all.

224 A few examples from the EMCa report serve to highlight this problem. In chapter 4 of the EMCa report, EMCa points to the following issues with ATCO’s analysis that suggest it does not meet r 79(1)(a) and 79(2)(c):

ATCO has expressed a belief that projects that relate to safety do not require economic justification. This stance is reflected in the lack of cost-benefit analyses in the FSAs with respect to the ALARP criterion and may be based on the assumption that satisfying rule 79(2)(c) does not require an economic test. However, as discussed in Sections 5 and 6 and in Appendix A, we believe such a test is required.

225 Although the passage is intended to demonstrate a lack of compliance with both r 79(1)(a) and r 79(2)(c), there is in fact no mention of r 79(1)(a) itself.

226 In chapter 5 of its report, EMCa commented that “of even greater concern though is that ATCO has not conducted a cost-benefit assessment when applying the ALARP test under the FSAs, as required by AS/NZS4645 and AS2885”.

227 In Table 16 of its report, EMCa provided a summary of the reasons why ATCO’s proposed capex does not satisfy r 79. In relation to the Two Rocks project and the Peel project, that summary is in the following terms:

Not justified under either:

- *Rule 79(2)(c) because:*
 - *ATCO has not conducted the cost benefit assessment required by AS/NZS4645 and AS2885 when applying the ‘as low as reasonably practicable’ test; and*
 - *the 25,000 customer threshold applied by ATCO in defining a catastrophic loss of supply is not consistent with good industry practice.*
- *Rule 79(2)(b) because compelling information has not been provided by*

ATCO to demonstrate that the expected incremental revenues of these spur lines exceed the proposed capex.

228 This passage does not mention r 79(1)(a).

229 In Appendix A of its report, EMCa referred to the requirements of the ALARP test in AS 4645 and, immediately following, concluded that “ATCO has not provided any evidence (which was confirmed in answer to questions during the on-site meetings) that it has carried out the cost benefit assessment required by AS/NZS4645 and AS2885.” Given the proximity of the passages, what appears to be suggested is that the cost-benefit analysis to which it is referring is in fact the test required by paragraph C5.2 of AS 4645 to demonstrate ALARP. Under AS 4645, that test is required only where a risk is ranked as “Intermediate” and steps are to be taken to demonstrate ALARP.

230 In its April addendum, EMCa considered that AS 4645 and the prudence test in r 79(1)(a) required ATCO to diligently consider all options for reducing the risk ranking to “Intermediate” or lower, applying a cost-benefit analysis test to determine if an “Intermediate” risk is ALARP.

231 Finally, in relation to the Two Rocks project, EMCa concluded in its April addendum:

While noting the very high cost per customer of the mitigation that ATCO has proposed, it is not within our scope to undertake, on ATCO’s behalf, the depth of analysis that correct interpretation of AS 4645 requires. In the absence of this analysis, we conclude that:

- (a) ATCO does not have a regulatory obligation to satisfy under the NGR (per r. 79(2)(c)(iii)); and*
- (b) The expenditure that ATCO has proposed to reduce its considered security of supply risk does not satisfy r. 79(2)(c)(i) of the NGR.*

232 It is unclear how EMCa concluded that ATCO “does not have a regulatory obligation”. As indicated, EMCa did not undertake a process of reasoning like ATCO to indicate whether a regulatory obligation exists, as ATCO said, under its Safety Case. Nor did EMCa justify the level of analysis it says is required by AS 4645.

233 It is unnecessary to refer to further examples to highlight the lack of precision in EMCa’s approach. That same lack of precision appeared in the Zincara report. For example, in the case of all three Projects, Zincara reached the same conclusion:

In summary, Zincara considers that ATCO does not have to demonstrate ALARP as the project is considered high risk and as such, Zincara therefore considers the project to be consistent with rule 79(2)(c).

234 However, Zincara's conclusion says little about the interaction between r 79(2)(c) and
r 79(1)(a).

235 The lack of precision is perhaps hardly surprising as both EMCa and Zincara were ultimately
focussed on advising their respective clients on the amount of capex to be included in the
building blocks. They were not focussed in any great detail on the interplay between the
standards and the NGR. For example, EMCa did not spend any detail on assessing ATCO's
claim that it is under a regulatory obligation in the way ATCO had developed that argument.
Again, it is hardly surprising that it did not do so, not least because the background of
EMCa's authors is in economics and engineering.

236 Notwithstanding this, that level of precision is important because a great deal of the dispute
now attaches to the proper application of AS 4645 and the NGR.

237 Both parties pointed to various provisions of AS 4645 (many of which the Tribunal has
already alluded) in support of their view that AS 4645 requires, or conversely does not
require a cost-benefit analysis, however described. To the extent that the parties, or more
relevantly their experts, may have been suggesting that such a view is apparent from the text
of AS 4645 as a whole – and it is not clear that they were suggesting that – the Tribunal is not
in a position to make such a determination. The Tribunal was not taken to the history of this
standard or other evidence that would enable it to draw such a conclusion. Rather, the
Tribunal's approach is to consider whether a particular provision in AS 4645 requires, within
its terms, a quantitative cost-benefit analysis, or something else.

238 One of EMCa's concerns was ATCO's failure to undertake a cost-benefit assessment when
applying the ALARP test under the FSAs, which EMCa considered was required under
AS 4645. The difficulty with this conclusion is that the ALARP test is only required where
an "Intermediate" classification has been adopted. It is not required where a "High"
classification is adopted, as ATCO had done. For a "High" classification, AS 4645 requires
modifying the threat, the frequency or the consequence to ensure that the risk is reduced to
"Intermediate" or lower. For a gas distribution network in operation, the risk must be
reduced "as soon as possible, typically within a timescale of not more than a few weeks".

239 As ATCO consistently proceeded on the basis of a "High" risk, it had no reason to apply an
ALARP test as required by EMCa - at least not the ALARP test prescribed by AS 4645. The
Tribunal sees no basis for concluding that AS 4645 requires that the same ALARP test be

applied to a “High” risk. AS 4645 specifically deals with the requirement for an ALARP test at paragraph C5.2, immediately following Table C4, where the ALARP requirement appears only under the “Intermediate” risk category, not in relation to other risks. For the reasons indicated earlier, the Tribunal is also not prepared to conclude that the ALARP approach in paragraph C5.2 emerges as an inherent feature of all risks classified under AS 4645.

240 Zincara appeared to have been aware of this issue. It noted that some confusion arose because ATCO’s Safety Case misused the term ALARP, and that it has used ALARP to mean “acceptable risk” which could be a “Low” or “Intermediate” risk. The following passage from the Zincara report explains where “acceptable risk” ought to have been used in place of ALARP:

In Section 4.2.2.3.5 of the Safety Case, ATCO describes the steps that it takes following the risk ranking:

- 1. If the risk is ranked Extreme or High, ATCO determines the steps that are necessary to reduce the risk to ALARP.*
- 2. If the risk is Intermediate, ATCO determines the appropriate action to reduce the risk to ALARP.*
- 3. If the risk is Low or Negligible, ATCO determines the management plan to prevent future occurrence and to monitor changes that could affect the rating*

To be consistent with ATCO’s risk management approach, Step 1 and Step 2 (described above) should use the term “acceptable risk” which could be intermediate (in which case the ALARP test should be applied) or low.

241 What Zincara appeared to be suggesting is that ATCO would only need to apply the guidelines for ALARP if the risk is at an “Intermediate” level but not if it is “High” (as incorrectly described in step 1 from the above passage). This construction is consistent with two examples of its application cited by Zincara in the case of meter installations and cast iron networks. The approach is also consistent with Table C4 of AS 4645. Despite this misapplication, Zincara did not consider it would affect the methodology adopted by ATCO in preparing its forecast capex. Zincara therefore concluded that ATCO’s approach is compliant:

As such, Zincara considers that ATCO’s risk management practice is consistent with that of a prudent service provider acting efficiently in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

242 It is for this reason that in the case of all three Projects, Zincara reached an identical conclusion that ALARP was not required:

In summary, Zincara considers that ATCO does not have to demonstrate ALARP as

the project is considered high risk and as such, Zincara therefore considers the project to be consistent with rule 79(2)(c).

243 However, had ATCO applied an “Intermediate” risk classification then under Table C4, AS 4645 would have required that ALARP be demonstrated. In this respect, there is no need to look further than the clear words of paragraph C5.2 of AS 4645 which expressly require substantiation of the costs and benefits of any risk reduction measure. Indeed that provision provides a further directive – a requirement that several options be considered as part of that assessment. Zincara did not appear to dispute the nature of the cost-benefit analysis required by paragraph C5.2 of AS 4645, had it applied to ATCO:

As discussed in Section 3.1.1, AS/NZS4645.1 requires that if the risk is assessed as extreme or high, ATCO is to take action that reduces the risk to low without any cost benefit analysis. However, if the action only reduces the risk to intermediate, then ATCO is required to investigate further action. If ATCO has to resolve to extreme measures to reduce the risk to low, it is required to carry out a cost benefit analysis and demonstrate that the cost is grossly disproportionate to the benefit.

244 A number of observations can be made regarding this conclusion. What Zincara in fact did at section 3.1.1 was set out the process undertaken by ATCO. Under that process, if the risk is considered “Intermediate” after the risk treatment, ATCO would then conduct a further risk treatment option to reduce the risk to “Low” or “Negligible”. If the treatment option did not reduce the risk to “Low”, ATCO would consider additional treatment options and also carry out a cost-benefit analysis in accordance with AS 4645. The Tribunal agrees with Zincara that ATCO’s “High” risk ranking did not impose on it the ALARP requirement required under paragraph C5.2 of AS 4645. It is axiomatic though that if ATCO had classified a risk as “High” under its risk matrix, then it would take the actions required by its risk matrix to address a “High” risk. However, that conclusion says little about whether the risk ought to have been so classified. Secondly, when Zincara refers in section 3.1.1 to a cost-benefit analysis required for certain risks under AS 4645, it is not clear how it has reached this conclusion because there was inadequate discussion of it in this part of the report.

245 Zincara’s conclusions are therefore not a complete answer to ATCO’s claim to include the capex costs associated with the projects. The ALARP requirement under paragraph C5.2 did not extend to ATCO because it had applied risk measures (and definitions of those risks) that ultimately resulted in a “High” risk ranking. The relevant question is however whether a “High” ranking was appropriately applied. This is discussed further below.

246 Given the lack of precision on the part of both EMCa and Zincara to which the Tribunal has already referred, the best that can be said is that each expert alluded generally to the operation of r 79(2)(c) or r 79(1)(a), or a combination, in support of their positions on allowable capex. That is, AS 4645 is not the only source of the obligation. As the ERA relied on the conclusions of EMCa, that assessment will also effectively determine whether the ERA made the errors alleged by ATCO. At this point, it is therefore important to consider the operation of r 79(2)(c) and r 79(1)(a).

The operation of r 79(2)(c) and r 79(1)(a)

ATCO'S SUBMISSIONS

247 ATCO said it is unclear whether the “prudent and efficient” criterion in r 79(1)(a) will always be met where capex is “necessary” or “required” under r 79(2)(c)(iii), for example because it is required as a result of a pipeline duty or requirement, and the service provider cannot choose to cease to provide gas services by means of the relevant pipeline. A similar issue arises as to whether the criterion applies if something is “necessary” under r 79(2)(c)(i) or (ii).

248 ATCO was prepared to concede that r 79(1)(a) is intended to provide some form of relevant filter on what expenditure will be allowable even in the circumstances where the service provider is required to incur capex in order to meet a regulatory obligation or requirement, or where it is otherwise necessary. However, ATCO's preferred construction of r 79 generally was that the provision *prima facie* permits such expenditure, but only if it meets the “prudent and efficient” criterion. ATCO suggested that the “prudent” limb in r 79(1)(a) would be met almost as a matter of course. This is because it is axiomatic that any prudent service provider would comply with “regulatory obligations and requirements” under r 79(2)(c)(iii), or for that matter where expenditure is “necessary” under r 79(2)(c)(i) or (ii). As regards the “efficient” limb, ATCO submitted that attention must be given to the means for achieving sustainable compliance at the lowest cost.

249 Where there is only one way of doing what is “justifiable”, then ATCO suggested that should be taken to be efficient, in accordance with “good industry practice”, and incurred to achieve the lowest sustainable cost for the purposes of r 79(1)(a). Where there is more than one way of meeting a “regulatory obligation or requirement”, or doing something which is “necessary”, ATCO argued that r 79(1)(a) invites inquiry as to whether the proposed course of action meets the “prudent and efficient” criterion.

250 ATCO maintained that it applied the criterion because it considered more than one way to spend the “justifiable” expenditure on the Two Rocks project, and the current proposal was chosen from those options. ATCO suggested that the question is not whether the justifiable expenditure necessarily meets the “prudent and efficient” criterion, but whether the option so chosen satisfies the “prudent and efficient” criterion. Under this approach, ATCO necessarily rejected EMCa’s requirement that it ought to have undertaken a cost-benefit analysis.

251 Additionally, ATCO asked the Tribunal to consider the following process of reasoning for concluding that r 79(1)(a) does not demand a cost-benefit analysis:

MR GRAY: ... But the first step in that is to go back to the submissions I made about the hierarchy of provisions in rule 79 and how it is that we put our case that there has been an impermissible gloss placed on section 79 by imposing a cost - a quantitative costs-benefit analysis requirement in all cases, including in cases where the various roman numeral subparagraphs at paragraph (c), subrule (2) are engaged.

.....

We say 79(2) itself contains a hierarchy of justification, starting with economic justifications or two different kinds in (a) and (b), and then moving on to different justifications, justifications of a different character altogether, justifications that are not economic justifications but are justifications in the nature of obligations or other subject matter consonant with the National Gas Objective.

The National Gas Objective is not only limited to the long-term interests of consumers on matters of price, but also on matters of safety, security, supply and such like. Now, just taking (2) one - subrule (2) one paragraph at a time, the first justification is in the nature of an economic justification. It is informed by subsection (3).

...

We say subrule (2)(a) certainly imposes an economic justification test, and we say that the limitation, such as it is, imposed by subrule (3) is not such as to deprive that criterion of its character as a costs-benefit-type test. It’s a quantitative costs-benefit test; it’s just that the economic values to be included in that test are economic values that can be said to directly accrue to the four categories of entities mentioned, service providers, etcetera.

...

MR GRAY: - - - we say 79(1)(a) is to be construed in a way that it doesn’t just duplicate the ground already covered by the justifications in 79(1)(b) and that is 79(2). And because in 79(2) there are cost benefit requirements in each of justifications (a) and (b) it’s highly unlikely that there is some formal quantitative cost benefit requirement in (1)(a). It certainly doesn’t read like there is. We disagree, with respect, with our friend’s submissions that any of the four limbs or elements of (1)(a) impose such a requirement. They don’t read like that. I will take them one at a time. Prudent service provider, well, if you had a statutory obligation to do something you have to do it. Granted, you have to adopt the cheapest, appropriate way of doing it but that’s - again, I repeat my submission - not a quantitative cost benefit analysis of the cost of balancing the cost of doing what you’re required to do with the benefit in terms of avoidance of economic impact on users and so forth. It’s simply finding the cheapest way to achieve the required regulatory outcome and

efficiently that requirement doesn't add anything to what I've already said. If one has an obligation it has to meet it. Then, granted you have to adopt the cheapest way to meet it but it doesn't mean you have to conduct some sort of balancing of the broader benefit to be achieved by incurring the cost. You just have to find the cheapest cost...

252 ATCO's argument was that EMCA's and the ERA's insistence on a cost-benefit analysis was in substance, a contention that, in quantitative terms, a service provider must demonstrate that the costs of a project are outweighed by economic benefits. This amounts to mandating compliance with r 79(2)(a) or (b) in every case, an outcome that deprives r 79(2)(c) of a legitimate role.

253 ATCO also suggested that some risks, particularly those that may have to be addressed under a regulatory obligation relating to safety, will not be readily susceptible to a strict monetary cost-benefit analysis. It will not always be possible for societal benefits of elimination of such risks to be quantified. This must be so in light of the prevalence of regulatory obligations directed to the risk to human life or injury. ATCO argued that it is wrong to read into r 79(1)(a) a requirement that efficiency should be assessed by reference to cost-benefit considerations where it may well be that the benefit in question (eg avoidance of death or injury) is qualitative and involves societal norms. In the case of expenditure for a purpose under r 79(2)(c)(i)-(iii), the costs issue which must be addressed under r 79(1)(a) is whether the safety or integrity of service risk, or the regulatory obligation in question, is being addressed cost efficiently. ATCO said its analysis satisfied that test and there is nothing in the text or context of r 79(1)(a) that compelled the conclusion urged by the ERA.

254 ATCO accepted that if there is a cheaper method evidently available to satisfy the relevant regulatory obligation in a manner conducive to the achievement of the NGO, then a more expensive option for doing so will not satisfy r 79(1)(a).

THE ERA'S SUBMISSIONS

255 The ERA argued that r 79(1)(a) requires satisfaction of a wider and more stringent test than is required by AS 4645. In this respect, the purpose and focus of AS 4645 and the Safety Case is the assessment and treatment of risk. The focus of r 79(1)(a) is economic efficiency, for the purpose of determining if ATCO's proposed capex should be included in the determination of total revenue for the purpose of calculating a regulated tariff. Further, a cost-benefit analysis is widely recommended as a requirement for evaluating publicly funded infrastructure projects.

256 The ERA maintained that for capex to be conforming, it must satisfy both r 79(1)(a) and r 79(2). At a high level, that much is agreed between the parties. However, the ERA argued that (contrary to what it considered ATCO to be suggesting), there is no necessary implication that, merely because certain proposed capex might be justified as necessary for one of the objectives identified in r 79(2)(c)(i), (ii), or (iii), the particular proposed expenditure is prudent, efficient, or otherwise satisfies any of the requirements in r 79(1)(a). Nor must it necessarily follow that the proposed expenditure is the lowest sustainable cost of achieving that objective.

257 The ERA argued that in the absence of some form of quantitative analysis, such as a cost-benefit analysis, ATCO did not demonstrate that the proposed capex was efficient and the lowest sustainable cost of providing the regulated services, even if it was necessary for one or more of the purposes in r 79(2)(c)(i)-(iii). The ERA maintained that it is insufficient for ATCO to point to compliance with a regulatory obligation under its Safety Case as justifying the capex because that conflates a safety obligation with the economic objectives in, among other things, r 79. Were that the case then compliance with r 79(2)(c)(i), (ii), or (iii) alone would be sufficient to render proposed capex conforming, despite the operation of r 79(1)(a).

CONSIDERATION

258 It is useful to again set out r 79(1) and r 79(2) in full ahead of the Tribunal's consideration of these arguments:

79 *New capital expenditure criteria*

- (1) *Conforming capital expenditure is capital expenditure that conforms with the following criteria:*
 - (a) *the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;*
 - (b) *the capital expenditure must be justifiable on a ground stated in subrule (2).*
- (2) *Capital expenditure is justifiable if:*
 - (a) *the overall economic value of the expenditure is positive; or*
 - (b) *the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capital expenditure; or*

- (c) *the capital expenditure is necessary:*
 - (i) *to maintain and improve the safety of services; or*
 - (ii) *to maintain the integrity of services; or*
 - (iii) *to comply with a regulatory obligation or requirement; or*
 - (iv) *to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity); or*
- (d) *the capital expenditure is an aggregate amount divisible into 2 parts, one referable to incremental services and the other referable to a purpose referred to in paragraph (c), and the former is justifiable under paragraph (b) and the latter under paragraph (c).*

259 As previously stated, the projected capital base for a period is determined by taking the opening capital base and adding to it conforming capex permitted under r 79 (less certain deductions). The opening capital base is not revalued under the NGR at each access arrangement period for the purpose of determining the projected capital base.

260 In this way, the decision to include sustaining capex impacts both the projected capital base for the period and also subsequent periods. Additionally to this consequence, a rate of return is applied to the projected capital base, which together with other items, ultimately determines the total revenue by which reference tariffs are calculated.

261 The purpose of this “trail” is to demonstrate the significance that capex attaches to the regulatory process under the NGR. If capex is allowed when it ought not be, then the projected capital base and ultimately the revenue requirement will be higher (all other things being equal) than ought to be, and customers will be paying higher tariffs than they should. This might occur, for example, if a service provider were allowed to include ‘gold plated’ capex when that is not required. Similarly, allowing less capex than ought to be allowed, may result in insufficient costs to fund the necessary expenditure needed to adequately deliver reference services, with the consequence that service delivery and safety may be compromised.

262 Sustaining capex therefore plays a very significant role in the scheme of regulation, and the NGR provide for a fine balance between allowable and disallowable capex. Rule 79 is designed to ensure that the balance is appropriately struck and should be construed with that in mind.

263 ATCO suggested that there is a hierarchy of justifications in r 79(2) where the character of r 79(2)(a) and (b) stand in contrast to r 79(2)(c). However, there are no express words in r 79 to indicate that the criteria in r 79(2)(a) and (b) on the one hand, have any different status in r 79 than the criteria in r 79(2)(c).

264 It is true, as ATCO suggested, that on their face, r 79(2)(a) and (b) address broader concepts of whether the return from capex exceeds the cost. In contrast, r 79(2)(c) addresses more precise issues relating, for example, to compliance with regulatory obligations or requirements, as well as other matters. ATCO believed that the factors in r 79(2)(c) were therefore not economic factors but rather justifications in the nature of obligations. The significance of this construction for ATCO is that it purportedly sheds light on the construction of r 79(1)(a). That is, if r 79(2)(a) and (b), because of their “economic” character, already import a cost-benefit requirement, it is highly unlikely that a formal quantitative cost-benefit analysis is required under r 79(1)(a).

265 The Tribunal does not accept that construction. For instance, r 79(2)(b) requires an examination of whether the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capex. The issue is what ought to be the value for capex applied in that circumstance, where there are multiple values that are each capable of satisfying the requirement in r 79(2)(b). Rule 79(2)(b) provides no answer to that question. The Tribunal considers that the answer is to be found in r 79(1)(a). That is, r 79(1)(a) operates very much in conjunction with r 79(2). It is what contributes to capex constituting “conforming capex” that is allowed under r 79.

266 Further support for this view is to be found in the words of r 79(1) itself. Conforming capex must satisfy both limbs of r 79(1) for it to be included, not just one. There is nothing in r 79(1) to suggest that priority should be given to r 79(1)(b) over r 79(1)(a).

267 ATCO somewhat reluctantly conceded that r 79(1)(a) is intended to provide some form of relevant filter on what expenditure will be allowable, even in the case of compliance with a regulatory obligation or requirement. Nevertheless, its preferred position was that such expenditure ought to be *prima facie* allowable. The Tribunal does not accept this position if its effect is to deprive both limbs of r 79(1) of their full effect as the Tribunal has indicated.

268 There is very limited discussion in the experts’ reports, the ERA decisions and the parties’ submissions on the meaning to be given to the key words in r 79(1)(a) and what they require.

269 Zincara referenced the Australian Concise Oxford Dictionary in support of its definitions of “prudent” and “efficient”. In its report, it adopted the following definitions in applying r 79(1)(a) and r 91(1):

- “prudent” as “discreet” or “cautious in managing one’s activities to avoid undesirable consequences”;
- “good industry practice” as “the actions carried out by ATCO’s peers in Australia”;
- “efficient” as “functioning or producing effectively and with the least waste of effort”.

270 In view of the limited attention given to it by the parties and their experts, the Tribunal does not propose to provide detailed guidance on the meaning of r 79(1)(a). Ultimately, given the way in which both the ERA and ATCO presented their cases, it is not necessary to do so. However, given the Tribunal’s conclusion on the interplay between r 79(1)(a) and r 79(2), it is necessary to say something about the nature of the assessment that is required under r 79(1)(a).

271 Broadly, the ERA maintained that it imports a requirement for a quantitative analysis, like a cost-benefit analysis. ATCO suggested that the “prudent” limb in r 79(1)(a) would be met almost as a matter of course, because it is axiomatic that any prudent service provider would comply with “regulatory obligations and requirements” under r 79(2)(c)(iii).

272 Although a prudent service provider would comply with a relevant regulatory obligation, there are many ways in which it could do so. There may be a range of options that it can deploy to comply, as well as a range of costs attributable to those options – each of which may be capable of satisfying the regulatory requirement. Prudency, therefore, extends not simply to the issue of compliance with an obligation but also to the means by which that is done.

273 It is also wrong to consider “prudency” in isolation to the surrounding words. It is not prudency *simpliciter*. It is a prudent service provider “acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services”. These surrounding words provide context (in the regulatory scheme under the NGR) to the considerations that ought to be in the mind of a prudent service provider.

274 Neither party explored in any detail the expression “efficiently”. When used in r 79, it is undoubtedly referring to economic efficiency - allocative efficiency, productive efficiency and dynamic efficiency. Allocative efficiency occurs when resources are allocated, through

price, to their highest-value use among all competing uses. Productive efficiency is achieved where goods are produced at the lowest possible cost, given a particular set of inputs. Dynamic efficiency encourages firms to improve their products, to produce new or better products, and to find better ways of producing goods and services.

275 In the context of r 79, productive efficiency and dynamic efficiency are particularly relevant because the provision addresses the capacity of the service provider to achieve the lowest sustainable cost of providing services.

276 The directive in r 79 is not only that the services be provided efficiently (and consistent with good industry practice), they must be done ‘to’ achieve the lowest sustainable cost of providing services - indicating that prudence and efficiency must drive lower sustainable costs of service delivery.

277 One way to demonstrate compliance with the economic directives in r 79(1)(a) is through a cost-benefit test. The ERA referred, for example, to a suggestion by the Productivity Commission in its report on public infrastructure, where it was observed:

Insights into the economic efficiency of proposed public infrastructure projects can be gained by conducting thorough and transparent cost-benefit analysis. This sometimes needs to incorporate real options analysis to properly factor in uncertainty. Where a cost-benefit analysis shows a project has a positive net benefit, this suggests that proceeding with it will improve economic efficiency. However, it is necessary to consider whether there are alternative projects that would improve efficiency to a greater extent, or achieve particular benefits at a lower cost.

See Productivity Commission Inquiry Report, *Public Infrastructure Volume 1* (No 71, 27 May 2014).

278 Ultimately, it is not so important whether the label “cost-benefit” is used to describe what is needed to demonstrate the economic efficiency directives required to demonstrate compliance with r 79(1)(a). What is more important is that the process employed be robust, and it must critically assess all available options for achieving the desired outcome, even if those options may not have been ones that were originally contemplated. There must be a dispassionate, objective and open mind brought to bear. The process must also examine the consequences of embarking on an option (or of not doing so), the costs attached to each option, and the ultimate return from them over their life, in present value terms. Although the process will have some qualitative features, it must invariably be a quantitative process.

279 Examined against the Tribunal’s discussion of the operation of r 79 above, ATCO’s approach to the Projects fell short of what is expected under r 79. In those circumstances, the ERA was entitled not to be satisfied that the costs claimed in relation to the projects were costs that complied with the requirements of r 79.

280 A further issue is then whether, on the available evidence, the ERA could reach the conclusion that the risk classification was “Intermediate” rather than “High”. This is considered below.

The risk thresholds applied by ATCO

ATCO AND THE ERA’S RESPECTIVE POSITIONS

281 EMCa’s main findings in relation to the Projects can conveniently be summarised as follows:

ATCO has relied on its assessment of the need for the Two Rocks and Peel spur lines (with \$18.1m and \$20.9m respectively allocated to ‘sustaining’ justification criteria) and interdependency projects of \$34m, based on its claim that these projects are required to address what are otherwise High risks. As we find the risk rankings are no higher than Intermediate, for the events nominated by ATCO it is required by AS 4645 to, among other things, demonstrate that its proposed investments are not grossly disproportionate to the benefit gained from the reduced risk that would result.

As ATCO has not undertaken the assessment required for Intermediate ranked risks, we have no basis for concluding that its proposed expenditure satisfies the ALARP test. The current situation in which significant numbers of WA gas customers are supplied from a single pipeline source is not uncommon elsewhere in Australia and has existed in WA for a number of years. EnergySafety has not found it necessary to intervene in this situation on safety grounds to date, nor do we consider that ATCO is or is likely to be under an obligation to construct such new pipelines on safety grounds, based on proper application of the applicable Australian Standard. We therefore conclude that for the two proposed spur line projects and the four proposed interdependency projects:

- (a) ATCO does not have a regulatory obligation to satisfy under the NGR (per r.79(2)(c)(iii)); and*
- (b) The security of supply risk does not satisfy r. 79(2)(c)(i) of the NGR.*

282 Zincara concluded that ATCO’s risk management framework was consistent with AS 4645:

Zincara considers that ATCO’s consequence and frequency tables (Table 3-3 and Table 3-4) are consistent with that set out in AS/NZS4645.1 (Standard) and that ATCO’s definitions in the table meet the guidelines as set out in the Standard. Similarly, the ATCO’s risk matrix (Table 3-5) is also consistent with that of the Standard.

In relation to the steps taken to assess and reduce the risk as described in Section 3.1.1, Zincara considers that process is also consistent with Standard.

Zincara therefore considers that ATCO’s risk management approach is consistent

with AS/NZS4645.1.

283 When Zincara indicated that ATCO's consequence and frequency tables were "consistent" with AS 4645, it must have been suggesting that, in its view they accurately applied AS 4645. This is because, as indicated, the ATCO matrix applied different consequence and frequency definitions to those specified in AS 4645. Even accepting this, Zincara did not indicate in any detail, the information it has relied on for its satisfaction.

284 Zincara considered ATCO's risk threshold for loss of supply issues to 25,000 customers and EMCa's conclusion that it is too low. Zincara undertook a comparison of ATCO's thresholds with other gas distributors Envestra and Allgas Energy, as comparable public data for other utilities was not available. Zincara considered that although each had developed its own risk matrix, the severity of each category was not materially different.

285 Zincara considered the risk definitions of other gas distributors listed at Table 18 of the EMCa report, as referred to earlier in these reasons. It concluded that ATCO's definitions were comparable and realistic:

Based on its experience, Zincara considers that ATCO's estimate of the length of time for long term interruption is realistic. Air getting into the gas network as a result of third party damage to a pipeline will result in an unsafe situation. The purging of the gas network to remove the air is a lengthy and complex situation and will take a considerable time and resources.

Using an average four week duration interruption to 25,000 customers will result in 100,000 customer weeks which is similar to that of Envestra. It is also similar to that of Multinet, which has defined a one month failure of gas supply as a catastrophic event.

286 In relation to SP AusNet's definition of 200,000 customers, relied on by EMCa, Zincara was unsure of the conditions behind that number of customers. However, Zincara observed that SP AusNet had approximately 571,000 customers at the start of 2011. Therefore 200,000 customers represented 35% of its total customer base. Given the nature of gas networks, with multiple feeds into the network, Zincara believed that any third party damage in one section of the network or loss of supply from one injection point, would not cause significant disruption. Zincara believed that it would have to be a disruption in the transmission system (which SP AusNet does not own) that was likely to cause such a disruption.

287 Zincara therefore considered that it was not possible to compare ATCO's definition of a catastrophic event to that of SP AusNet. Zincara was satisfied that ATCO's definition of a catastrophic event for loss of supply "is consistent with industry practice and as such

consistent with a prudent service provider acting efficiently in accordance with accepted industry practice to achieve the lowest sustainable cost of delivering pipeline services”.

288 EMCA was concerned with what it considered was a low risk threshold applied by ATCO. In its April addendum, EMCA took the opportunity to closely consider both the consequence analysis and frequency analysis applied by ATCO on both interruption to supply and human safety.

289 Despite Zincara’s support for a threshold of 25,000 customers, in its April addendum, EMCA maintained that they were unaware of a distribution network failure event in Australia leading to the loss of supply to more than 25,000 customers, or of the loss of supply of that magnitude that had taken more than two weeks to restore. EMCA noted that gas supply was restored to more than 1 million customers following the Longford gas explosion incident in 1998 in less than three weeks. Despite this, EMCA acknowledged Zincara’s expertise and its view that this is consistent with industry standards. Accordingly, in cases in which there is risk of interruption to continuity of supply to 25,000 customers or more, EMCA conservatively applied a consequence rating of “Catastrophic”.

290 Zincara criticised EMCA for applying a value judgment that the cost of the Project exceeds the customer benefit in terms of security of supply. Zincara was satisfied that ATCO’s definition of a “Catastrophic event of the loss of supply to 25,000 customers” was consistent with the industry standard.

CONSIDERATION

291 The Tribunal does not accept Zincara’s characterisation of EMCA’s position. As noted above, EMCA pointed to the example of SP Ausnet in support of its view that the customer number applied by ATCO was too high. As the Tribunal has already indicated, the approach to r 79(1)(a) demands a robust quantitative assessment before capex can be included in the building blocks. Faced with very little information available in the public domain, it was open to EMCA (and ultimately the ERA) to accept the best available comparable data, on which it ultimately proceeded. This cannot be characterised as applying a value judgment as Zincara suggested.

292 In relation to the frequency classification for safety events, EMCA considered that ATCO misapplied the frequency class on the basis of the failure of the event occurring rather than its consequence. However, having examined the ATCO risk approach, the Tribunal is satisfied

that ATCO well appreciated the difference between a failure event occurring and the potential consequences of failure events, and addressed the risks of those outcomes occurring.

293 EMCa was also critical of ATCO's failure to provide any new statistical information to support its risk assessment. Certainly EMCa was unable to find any comparable public data:

As discussed above, we have been unable to find any event on the public record where a distribution network in Australasia has been damaged to the extent that more than 5,000 customers have lost supply from the events nominated by ATCO. We acknowledge that third party damage to distribution pipelines is possible and does occur from time to time, but we can find no information to support a finding that a rupture or other event sufficient to cause loss of supply to over 25,000 customers for over four weeks has occurred.

294 EMCa therefore observed that although the consequence of the event (loss of supply to more than 25,000 customers) is theoretically possible, it has never occurred on a similar asset. EMCa therefore concluded that based on AS 4645, this equates to a "Hypothetical" frequency class. The Tribunal considers that this conclusion was open to EMCa for similar reasons as were open to it in relation to the consequence rating.

295 As regards human safety, EMCa found no evidence to support EnergySafety's view that the appropriate safety consequence rating for such a loss of supply is "Catastrophic". EMCa was not aware of fatalities associated with large scale gas supply restoration projects. EMCa did not accept a "High" rating on safety grounds:

We consider the frequency class for consideration of the impact as a 'major' consequence is best described as Hypothetical. This would lead to the risk being classed as Low under the AS 4645 risk framework. If one considers the likely safety consequence of a supply interruption to more than 25,000 customers to have a Severe safety ranking, then we consider that the most appropriate likelihood to apply to this would be Occasional and this would lead to an Intermediate risk ranking on safety grounds.

296 The Tribunal considers that this conclusion was open to EMCa for similar reasons as were open to it in relation to the consequence and frequency ratings.

297 Overall, EMCa assessed the risk ranking to be "Intermediate" at best with the consequence that under AS 4645 a prudent operator would undertake further analysis to determine what other risk reduction measures (other than building new pipelines) are available and should be adopted.

THE APRIL ADDENDUM

298 In the April addendum, EMCa specifically considered the loss of supply to northern networks and, in this context, the justification for the Two Rocks project and the capex attributable to it. Consistent with its earlier report, EMCa was unable to independently verify that 60,000 customers in the northern suburbs were at risk, without assessing ATCO's detailed modelling, which it considered beyond scope. However, assuming ATCO's analysis was correct, the risk ranking is "Intermediate" for the reasons EMCa provided above. The consequence is that ATCO should have applied the measures provided for an "Intermediate" risk specified in Table C4 of AS 4645.

299 EMCa was also critical of ATCO's failure to consider other options for mitigating risk, including a shorter pipeline:

ATCO has chosen to present only one option for mitigating the supply risk. We consider that there are number of other pipeline options it could have considered, such as a new shorter pipeline from Bullsbrook GS005 to the southern nominated interconnection point as shown in ATCO Figure 1-4 Appendix 8.2 at notionally half the length of that proposed and therefore notionally, half the cost. We also consider that ATCO should have examined other capital and operational measures to reduce risk, including the options designated in section C5.2 of AS 4645, but has provided no evidence that it has done so.

300 ATCO was critical of this comment because it said that EMCa did not genuinely attempt, other than notionally, to cost this option or the other pipeline options to which EMCa alluded. ATCO said that this suggestion was obviously flawed because it suffered from similar vulnerabilities to supply interruption as the present network configuration by reason of its dependence on the same Bullsbrook gateway from the transmission pipeline.

301 However, EMCa was not suggesting that its proposal for a shorter pipeline was costed. Looked at in its context, EMCa was indicating that there were other options that ATCO ought to have considered in its 'mix'. The Tribunal agrees that ATCO ought to have done so as part of the proper application of r 79(1)(a). The ERA (and EMCa) were not wrong to require of ATCO that degree of rigor.

The ERA's failure to consider the application of r 79(2)(c)(ii) to the Two Rocks Project and the Peel Project

302 It is convenient at this stage for the Tribunal to address an error contended by ATCO specific to the Two Rocks project – namely the ERA's failure to consider whether the capex was justified under r 79(2)(c)(ii) (to maintain the integrity of services).

303 The Tribunal observes that the issue was considered in EMCa's report. The ERA addressed the issue of the integrity of service delivery and loss of supply issues in relation to Two Rocks in its Amended Final Decision albeit, it seems, without express reference to the provision itself. Nevertheless, the Tribunal is satisfied that the ERA's consideration can be attributed to r 79(2)(c)(ii). In any case, ATCO did not advance a position as to why the expenditure would be permitted under r 79(2)(c)(ii), if it is not justified under say r 79(2)(c)(iii), such as to justify any interference by the Tribunal.

304 In relation to the Peel project, EMCa was unable to independently verify that 34,000 customers in Mandurah, and 1800 customers in Pinjarra were currently at risk without assessing ATCO's detailed modelling, which it considered out of scope. Similarly it considered the risk ranking "Intermediate".

305 Like the Two Rocks project, EMCa was similarly critical of ATCO's failure to consider other options, including procedural controls or, if economically justified, a new shorter pipeline option from Fairbridge GS011 to the nominated interconnection point in the Mandurah distribution system, as shown in ATCO's Appendix 8.2, Figure 1 –6. The Tribunal's comments in relation to ATCO's failure in this regard in relation to the Two Rocks project apply equally to the Peel project.

306 EMCa's conclusion in relation to the Interdependency project is broadly similar to the conclusions it reached for the Two Rocks and Peel projects. However, in relation to metallic mains replacement, EMCa was satisfied that ATCO is capable of delivering the amended revised proposed expenditure of \$47.1 million (a \$3.4 million reduction to its revised proposal) within the AA4 period. EMCa also considered that the deferral of 11 km of unprotected metallic mains replacement into AA5 is prudent. EMCa was therefore satisfied that the program of work satisfies r 79(2).

Conclusion

307 For the reasons discussed, the Tribunal considers that it was open to the ERA to require that ATCO undergo the assessment specified by the Tribunal to demonstrate compliance with r 79(2)(c) and r 79(1)(a). As discussed, in applying that assessment, it was open to the ERA to conclude that ATCO had not demonstrated that its risk ranking was "High" and in compliance with r 79(1) and r 79(2). The ERA was not in error in doing so. Similarly, as discussed, on the balance of the available evidence, it was also open to the ERA to conclude

that the proper ranking was “Intermediate” and not “High”. The ERA therefore did not make the errors alleged, incorrectly exercise its discretion or act unreasonably.

The ERA’s requirement that ATCO assess its projects under the cost-pass through mechanism for an “Intermediate” risk imposed under the Final Decision

308 In view of the Tribunal’s conclusion above, it is necessary to address ATCO’s criticisms of the pass through mechanism imposed by the ERA under its Amended Final Decision.

309 It will be remembered that the ERA required that ATCO include a cost pass through mechanism in the following terms:

The Authority requires that ATCO include the following clause 3.1(e):

ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of addressing an “Intermediate” security of supply risk following an assessment in accordance with the required steps prescribed in Table C4 of AS 4645 for an ‘intermediate’ ranked risk. This expenditure can only be passed through for the following areas of the network identified by ATCO in its Response to the Draft Decision: Northern Network, Peel, Hillary’s, Canning Vale, Fremantle and Lathlain.

310 This requirement was finally reflected in cl 2.1(e) of Appendix B (Reference Tariff Variation Mechanism) in the Final Access Arrangement.

311 ATCO objected to the need for this mechanism at all because, in its view, it had applied the appropriate risk classification.

312 If the cost pass through mechanism were to stand, ATCO identified several problems with its application. One of those difficulties was that the ERA and ATCO have fundamentally different views as to what is required to undertake an assessment under Table C4 of AS 4645. That difficulty, of course, merely re-states what, in effect, was the very nature of the dispute. As the Tribunal has indicated in these reasons the nature of the assessment required under the NGR, that should go some way towards addressing the difficulty ATCO has raised.

313 A further difficulty raised by ATCO is the uncertainty as to whether expenditure would ultimately be accepted by the ERA and satisfy the pass through mechanism:

MR GRAY: I make two points. One is there’s this disagreement about the ranking, but perhaps more importantly this expenditure has to be incurred before this pass through event will be triggered. That is leaving the projects and their viability, in financial terms, as a hostage to fortune in terms of the ERAs decision about whether to approve the pass through event, and that’s a matter that would impact deleteriously on financing, and is not an acceptable outcome.

....

MR GRAY: That's the – that's what our friends' client is doing. It's putting it off for another day in a particular way, which is not satisfactory in my submission, for the company to conduct its affairs in a manner consistently with the NGO, and to earn the efficient return that's mandated, or at least contemplated, by the revenue pricing principles. Why? Because if the company hopes to avail itself of this pass through event, it first has to incur the expenditure. It has got no guarantee, if I can use that word, that any approval would be forthcoming from the ERA that the expenditure turns out to be conforming capital expenditure on these – or conforming operating expenditure on these projects.

It would have to incur the money, then claim a pass through event, and abide the decision of the regulator. Now, that would raise its – raise its costs of financing, because there's no guarantee that there's going to be any sort of return, at least in AA4, from the projects.

314 What the Tribunal notes about the cost pass through mechanism is that it is not capable of operating of its own force. That is, it is drafted in such a way that there will invariably need to be another process employed to assess whether the expenditure incurred by ATCO complies with the terms of the pass through mechanism. In this respect, ATCO was correct to observe that it puts off these issues for another day, and in doing so creates some uncertainty.

315 That uncertainty is compounded by the fact that the “Intermediate” risk ranking, which the Tribunal has determined to be appropriate, was nevertheless disputed by ATCO. Therefore, ATCO would need to reassess the Projects on a fundamentally different premise to that on which it initially embarked.

316 To ensure that the mechanism is satisfied, the Tribunal assumes that the ERA may engage additional consultants and possibly seek input from stakeholders. The cost pass through mechanism therefore gives rise to a separate process outside the access arrangement approval process prescribed by the NGR. It is undesirable that a mechanism such as this should give rise to a separate process that is not managed by the NGR.

317 In the context of the disagreement between the parties on the risk ranking and a process that was already delayed, it is perhaps understandable why the ERA chose to employ this cost pass through mechanism to deal with the issue – effectively at a later time.

318 That said, in view of the Tribunal's conclusion, the Projects will need to be re-assessed by some means. In effect, that is what the cost pass through mechanism seeks to do. The Tribunal understands that will involve further work by ATCO and the ERA and necessitate a degree of co-operation between them, armed with the direction the Tribunal has provided in these reasons.

319 On balance, there are no alternative measures the Tribunal considers would result in any significantly better process by which this task should be undertaken. The Tribunal does however encourage the parties to take a cooperative approach to the task. It would clearly be undesirable for the current dispute to be re-agitated again in applying the pass through mechanism.

320 However, the Tribunal cannot conclude there is an error in the pass through mechanism so as to be a basis to vary or set it aside.

DEPRECIATION

Introduction

321 Pursuant to r 76(b) of the NGR, one of the building blocks in determining ATCO's total revenue for each regulatory year of the access arrangement period is depreciation on the projected capital base for the year.

322 Depreciation also affects the determination of ATCO's total revenue for each regulatory year as depreciation is deducted from the projected capital base for each year (r 78(c)), and a rate of return is applied on the capital base determined under r 76(a).

323 ATCO contended that the ERA's determination of ATCO's depreciation schedule under r 89 of the NGR, and underlying depreciation methodology, are vitiated by grounds of review under s 246(1) of the NGL. These errors are said to impact the depreciation allowance to be included in ATCO's total revenue (and the calculation of the projected capital base) for each regulatory year of the access arrangement period AA4.

324 The depreciation schedule determines (together with new capex) the change in the regulatory asset base over time and thus also affects the return on capital component of the building block approach. The pattern of cash flows, or total revenue, over time thus depends on the depreciation schedule adopted. In turn, given a specified consumption stream over time, this affects the time path of average revenue ('AR') and tariffs.

Legislative framework

325 Rule 69 provides that "depreciation" in Pt 9 of the NGL means "depreciation of the capital base". Depreciation is otherwise not defined in the NGL or the NGR.

326 Under r 76(b), one of the building blocks to determining revenue is depreciation on the projected capital base for the year. Depreciation is often referred as a ‘return of capital’ (cf ‘return *on* capital’)

327 Rule 89(1) of the NGR identifies five objectives for consideration in design of the depreciation schedule to be used. These are:

- (1) so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services; and
- (2) so that each asset or group of assets is depreciated over the economic life of that asset or group of assets; and
- (3) so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets; and
- (4) so that (subject to the rules about capital redundancy), an asset is depreciated only once (ie that the amount by which the asset is depreciated over its economic life does not exceed the value of the asset at the time of its inclusion in the capital base (adjusted, if the accounting method approved by the regulator permits, for inflation)); and
- (5) so as to allow for the service provider’s reasonable needs for cash flow to meet financing, non-capital and other costs.

328 The central question is whether ATCO’s schedule has been designed so that reference tariffs will vary over time in a way that promotes efficient growth in the market for reference services (it not having been suggested that the market for such services is immature) and so as to allow for ATCO’s reasonable needs for cash flow to meet financing, non-capital and other costs: r 89(1)(a) and (e) of the NGR.

329 It is uncontroversial that those objectives are best met by the depreciation methodology that most closely matches AR with long run marginal cost (‘**LRMC**’) associated with an incremental increase in services. However, there is dispute as to the basis for that comparative analysis. ATCO submitted that the basis of the comparison should be AR for each GJ of gas delivered through ATCO’s gas pipeline network compared with the LRMC per GJ (the total of costs involved in the long run, in delivering an incremental increase in delivery by on GJ).

Grounds of review

- 330 In its Review Application, ATCO submitted that the revenue effect in AA4 of the ERA's Amended Final Decision relative to the depreciation proposal submitted by ATCO was to reduce revenue by some \$17 million. This material difference arises from effects on both the return *of* capital and return *on* capital components (together referred to as the '**capital cash flows**') of the building block approach. The return on capital effect arises from the different time path implied for the regulatory asset base on which the return on capital is calculated. While the effect on AA4 revenue is material, this results from bringing forward of expected cash flows from later access periods under the historical cost accounting ('**HCA**') approach (and the transition path) relative to the current cost account ('**CCA**') approach. Both approaches have the same present value impact from expected cash flows over the life of the asset. The effect is thus material in the context of AA4 revenues, but arguably not material in the context of the present value of longer term revenues over the life of the assets involved.
- 331 ATCO set out a large number of issues on which it claimed that the ERA made error or errors of fact which were material to the decision, or that its exercise of discretion was incorrect or its decision was unreasonable. Many of these are reformulations or restatements of other alleged errors or would-be consequences of other errors. Ultimately, much of the focus of ATCO's application, and matters under contention, is the shape or position of the LRMC curve, for many years into the future.
- 332 It would be unhelpful to restate the errors verbatim, hence the specific errors which ATCO contended were made by the ERA can be summarised as follows:
- (1) when the ERA estimated that the LRMC per GJ would rise over the next 65 years this led to subsequent errors in a comparison of AR and LRMC per GJ and the decision to retain indexed depreciation. ATCO contended this occurred because the ERA disregarded legitimate methods for estimation of LRMC and failed to have regard to the objective evidence of the trend in LRMC. The Tribunal notes that the parties ultimately agreed on a common forecast for the LRMC per GJ (denoted as Final Figure 40). This is no longer an issue, except to the extent that ATCO claimed that the ERA erred in exercising its discretion to reject the ATCO proposal based on such errors at the time of its determination.

- (2) when the ERA took into account the per connection AR and per connection LRMC, and failed to assess LRMC and prices overtime on a per GJ basis only or failed to give the per GJ assessment more weight than the alternative basis of per connection.
- (3) the ERA gave wrong emphasis to the timeframe over which the LRMC should be considered.
- (4) the ERA made estimates of the LRMC incorrectly by using Average Incremental Cost ('AIC') calculations for different durations. It also made errors in inputs to its calculations and in assumptions about the growth of capex. The Tribunal notes that the agreement referred to above on the Final Figure 40 again means these are no longer an issue, except to the extent that ATCO still claimed that the ERA erred in exercising its discretion to reject the ATCO proposal based on such errors at the time of its determination.
- (5) the ERA inappropriately used an historical estimate of LRMC for 2006 in forming a view on the trend in LRMC because LRMC is a forward looking concept.
- (6) the ERA made errors in asserting that unwarranted subsidies and allocation of capital costs between present and future consumers would occur, and that there would be undesirable implications for capital asset investment and disposal.
- (7) the ERA erred in invoking reg 7 of the *National Gas Access (WA) (Local Provisions) Regulations 2009* (WA) ('**Local Provisions Regulations**') because of (incorrectly) asserted price shocks as justification for rejecting ATCO's proposal.

Background

333 In prior access arrangement periods for ATCO, including the previous access arrangement period AA3, the depreciation schedule used to determine the return of capital and thus the adjustment to the regulatory asset base ('**RAB**') was based on a CCA approach. This involved depreciation providing for the return of capital in real terms over the life of the asset, such that the effect of inflation was built into the nominal return of capital. Consistently, the rate of return on capital applied was a real (inflation adjusted) rate of return. The depreciation schedule used was a straight line approach in which the amount of real depreciation applied each year over the life of the asset would be constant.

334 One complication to the CCA approach introduced by the specification of the building block approach in the *National Gas Amendment (Price and Revenue Regulation of Gas Services) Rules 2012* ('**2012 Rule Amendments**') is the requirement in r 87(4)(b) of the NGR that the

allowed rate of return is to be “determined on a nominal vanilla basis that is consistent with the estimate of the value of imputation credits referred to in rule 87A”. Allowing a nominal rate of return in conjunction with CCA depreciation, where both of these components of the building block approach allow for compensation for inflation, would lead to over-compensation for inflation. This complication could be dealt with under the building block requirements by either:

- (1) deducting an amount, determined by applying the inflation rate to the regulatory asset base, from the depreciation amount determined using CCA; or
- (2) shifting to an HCA approach.

335 The first approach was preferred by the ERA, and the second approach was preferred by ATCO. Either approach will generate an expected revenue stream over the life of the asset which reflects the required aggregate of the capital cash flows with present value equal to the asset cost, but with differing time patterns of those revenue streams.

336 Also relevant to this issue is the NGR relating to tariff determination. Rule 94(4) states:

A tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class:

- (a) *must take into account the long run marginal cost for the reference service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates*

337 There is no guidance given in the NGR on what is specifically meant by “take into account”. Moreover, there is no guidance on how LRMC is to be interpreted or calculated. Nor does this provision imply that consideration of LRMC should involve projections of the value of that concept into the far-distant future. Rather it provides, albeit vaguely, guidance for setting tariffs at a given point in time.

338 The dispute between the parties, however, ultimately came down to differing views on the compatibility of estimated values of LRMC at future points in time with the revenue streams resulting from the alternative approaches to depreciation, and consequences for efficiency.

ATCO’s proposed approach

339 For AA4, ATCO proposed a gradual shift towards use of the HCA approach. In the HCA approach, a constant nominal value of depreciation is applied each year such that the original dollar cost of the asset is recouped over the life of the asset in nominal terms. Compensation

for the effects of inflation is provided by use of a nominal rate of return on capital. A straight line approach was also proposed.

340 The gradual shift towards an HCA approach proposed by ATCO was termed the “transitional approach”. For AA4, this involved the CCA approach (with the depreciation amount being adjusted to offset the provision of inflation compensation via use of a nominal return on capital in the building block approach) still being applied to the pre-existing capital base, but HCA being applied to new capex. For subsequent access periods there would be a gradual conversion of depreciation of existing assets to the HCA approach. Specifically, in AA5 (commencing at the start of 2020) the CCA approach would only be applied to the (depreciated) capital base which was in existence at the start of 2000. In AA6 (commencing at the start of 2025) HCA would be applied to all assets. ATCO also proposed a “fixed principle” such that HCA would then remain in use after that time.

Implications of choice of depreciation schedule

341 It is well known that under the HCA or CCA approaches the present value of the capital cash flows equals the original asset cost, but with a difference in the time pattern of the revenue streams over the life of the asset. Assuming the same style of depreciation schedule (eg straight line depreciation), the HCA revenue stream is more “front end loaded” than the CCA revenue stream (assuming that inflation is positive).

342 The NGR do not mandate a straight line method of depreciation, and any shaped depreciation schedule which provides for full return of the invested amount (in conjunction with the appropriate rate of return) is consistent with the present value condition outlined in the preceding paragraph. Also r 89(2) would allow for non-straight line depreciation as it states that “[c]ompliance with [r 89(1)(a)] may involve deferral of a substantial proportion of the depreciation” under certain conditions where this is perceived to be consistent with efficient growth of the market.

343 What the choice between the HCA and CCA approaches implies for the pattern of nominal tariffs over time, and efficiency in provision of services and growth of the market, is *a priori* unclear. It depends, *inter alia*, upon the time pattern of demand for the asset services, and the expansion of capacity through new capex. If there were larger demand towards the end of the asset life, a revenue stream which, in real terms, is more “back-end loaded” (such as from CCA depreciation determining the capital cash flows) would be more likely to lead to more constant real tariffs over time. In contrast, HCA depreciation would imply lower real tariffs

in later years as full capacity was approached. In practice, the time path of real tariffs could be expected to affect the pattern of demand over time, such that there would be different market growth and need, and incentives, for further capex under an HCA versus CCA approach.

344 As discussed subsequently, the issue of the likely temporal pattern of demand is only one of several considerations. Promoting a revenue stream which allows tariffs to be set efficiently over time in accordance with anticipated movements in costs is another consideration, and assessing the relative merits of CCA and HCA (or proposed transitional) approaches in this regard is one key area of contention between ATCO and the ERA.

345 However, for a given specified time pattern of demand over the asset life, the CCA approach will involve relatively lower tariffs than the HCA approach in the earlier years of the asset life and conversely relatively higher tariffs in the later years. Some part of the rationale for use of CCA by Australian regulators in the past has been the view that anticipated growth in demand over time, when combined with a CCA approach generates a more level path for real tariffs over time. In *Application by APA GasNet Australia (Operations) Pty Limited (No 2)* [2013] ACompT 8, the Australian Energy Regulator ('AER') rejected a proposal from the applicant to switch from CCA to HCA citing concerns over the resulting implied tariff path and consequences for efficient growth of the market and asset utilisation. In that case, the Tribunal did not find any reviewable error and upheld the decision of the AER. In that case, the arguments considered in reaching that conclusion were largely qualitative in nature. In contrast, in this case, much of the emphasis was on quantitative analysis involving projections of demand and cost into the far distant future. The objective was to assess how expected revenue streams arising from different depreciation approaches aligned with projected cost estimates and the consequent implications for efficient growth of the market.

346 The ERA noted that, despite proposals by regulated firms to switch to the HCA approach, there were no cases under the NGR or NER where the AER had agreed to these proposals. ATCO submitted one case of such a switch by the relevant regulator – the ERA's '*Final Decision on the Proposed Access Arrangement for the Goldfields Gas Pipeline*' in relation to Goldfields Gas Transmission Pty Ltd in May 2005.

The ERA decision process

347 The ERA, in its Draft Decision, Final Decision and Amended Final Decision, consistently rejected ATCO's HCA approach and retained the CCA approach. Despite substantial

interchange between the ERA and ATCO from the time of the AA Revision Proposal, neither party shifted from its original position on the choice of depreciation schedule. The ERA did, however, shift from incorporation of the inflation adjustment as an additional “building block” in its Draft Decision to incorporating it directly into the return of capital building block in its Amended Final Decision. This reflected the view that the building block specification did not allow for an additional building block to those prescribed by the NGR.

348 There were, however, variations made during the process by the ERA (and ATCO) in associated calculations of dollar magnitudes involved (and their timing) as alternative approaches to practical implementation of relevant economic concepts adopted. These involve a number of conceptual and technical issues on which debate between the parties continued into, and beyond, the Tribunal hearings including the production of further statistical evidence.

349 In its Draft Decision, the ERA set out its conclusions and reasons for rejecting ATCO’s HCA approach. It argued that ATCO’s HCA approach would not promote efficient growth in the market, and is not consistent with r 89(1)(a) because:

- (1) “prices under the HCA approach are likely to diverge to a greater degree from LRMC than under the CCA approach”;
- (2) it will “lead to an unnecessary price shock in the near term”; and
- (3) it would “act to discourage efficient management of the pipeline assets”.

350 Thus while ATCO’s proposal is accepted as meeting the requirements of r 89(1)(b)–(e) the ERA determined that it “is not consistent with the National Gas Objective with regard to the promotion of efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers”.

351 In its Amended Final Decision, the ERA reaffirmed its view that, following revised indicative modelling analysis, “the CCA approach aligns trends in AR more closely with long run marginal costs over the longer term, as compared to HCA”. The ERA’s reasons for rejecting the HCA approach were that:

- (1) it is not consistent with r 89(1)(a) of the NGR;
- (2) it does not comply with the NGO; and
- (3) it does not comply with the RRP.

352 Further, in its Amended Final Decision, the ERA variously raised the following arguments against the HCA approach:

- (1) “leads to subsidies from current consumers to future consumers, which is not in the long term interests of (all) consumers.”
- (2) “may result in unnecessarily high prices in the short to medium term - these could discourage gas usage and upstream and downstream investment.”
- (3) “provide for price paths that encourage inefficient utilisation of assets, that is, under or over utilisation of the asset at different times in its life cycle.”
- (4) “may result in an inefficient management of assets.”

353 In addition, the ERA rejected the HCA approach because it “would have a clear detrimental impact on the incomes of Western Australian small use customers over the next decade or more, making this approach contrary to regulation 7 of the *National Gas Access (WA) (Local Provisions) Regulations 2009*”. Regulation 7 provides:

7. Impact on small use customers and retailers to be taken into account

- (1) *When exercising a discretion in approving or making an access arrangement for a distribution pipeline the ERA must take into account the possible impact of the proposed reference tariffs, the method of determining the tariffs and the reference tariff variation mechanisms on —*
 - (a) *users to whom gas is or might be delivered by means of a small delivery service provided for in the access arrangement; and*
 - (b) *small use customers to whom gas is or might be delivered by those users.*
- (2) *In subregulation (1) a reference to the impact of something is not limited to the economic impact of that thing.*
- (3) *A requirement under this regulation to take a matter into account applies —*
 - (a) *despite anything in the National Gas Law or Rules that would otherwise prevent the matter being taken into account; and*
 - (b) *in addition to any requirement under the National Gas Law or Rules —*
 - (i) *for any other matter to be taken into account; or*
 - (ii) *as to the content of the access arrangement.*
- (4) *For the avoidance of doubt, this regulation does not permit the ERA to approve or make an access arrangement that does not include a reference tariff variation mechanism that complies with rule 92 of the Rules.*

354 The Tribunal accepts that this regulation requires the ERA, in making a determination, to take into account adverse consequences for the relevant consumers of higher tariffs as a relevant factor, but does not accept that it is an overriding consideration in comparison to other considerations related to the NGR and the NGO. In other words, it is a factor to take into account. It is a factor to take into account in the exercise of “a discretion”, which is necessarily involved in the making of a determination. As reg 7 makes clear, the factors mentioned in reg 7 are to be taken into account despite anything in the NGL or the NGR. In any event, without reg 7, it is a relevant factor to take into account under the NGO and the NGR each of the factors referred to in reg 7(1). However, the Tribunal does not consider that the ERA’s reliance on reg 7 was material to its rejection of ATCO’s HCA approach. The other matters relied upon by the ERA were significant and supported its conclusion.

Limited discretion under r 40(2)

355 An initial question arises for consideration in the context of depreciation, namely whether it was open to the ERA to exercise its discretion in rejecting ATCO’s HCA approach.

356 Rule 89(3) provides that the ERA’s discretion under r 89 is limited, in accordance with r 40(2) of the NGR which provides:

If the Law states that the [ERA’s] discretion under a particular provision of the Law is limited, then the [ERA] may not withhold its approval to an element of an access arrangement proposal that is governed by the relevant provision if the [ERA] is satisfied that it:

- (a) *complies with applicable requirements of the Law; and*
- (b) *is consistent with applicable criteria (if any) prescribed by the Law.*

Example:

The [ERA] has limited discretion under rule 89. (See rule 89(3).) This rule governs the design of a depreciation schedule. In dealing with a full access arrangement submitted for its approval, the [ERA] cannot, in its draft decision, insist on change to an aspect of a depreciation schedule governed by rule 89 unless the [ERA] considers change necessary to correct non-compliance with a provision of the Law or an inconsistency between the schedule and the applicable criteria. Even though the [ERA] might consider change desirable to achieve more complete conformity between the schedule and the principles and objectives of the Law, it would not be entitled to give effect to that view in the decision making process.

ATCO’s submissions

357 ATCO contended that the ERA incorrectly exercised the limited discretion under r 89(3) in rejecting ATCO’s HCA approach and substituting its own methodology. More specifically, ATCO contended that the ERA had no discretion to reject the ATCO’s HCA approach, as it

should have found itself satisfied on the basis of the evidence presented by two experts, NERA Economic Consulting (**‘NERA’**) and HoustonKemp Economists (**‘HoustonKemp’**), that ATCO’s HCA approach complied with r 89(1)(a) of the NGR.

358 Underlying this ground of review is ATCO’s contention that the ERA made errors of fact in its consideration of the accounting methodology to be used, which led it to determine that ATCO’s HCA approach did not comply with the applicable requirements under the NGL. As a consequence, ATCO contended that the nature of this ground of review requires the Tribunal to examine the way in which the ERA reached the conclusion that it was not satisfied ATCO’s transition path complied with the NGL. Should ATCO prove that an error of fact was made, then it submitted that ‘as night follows day’, the exercise of the discretion was not open to the ERA in the first instance, and was therefore incorrect.

359 ATCO contended that the ‘limited discretion’ regime established by r 40(2) cannot be side-stepped by the ERA merely not being ‘satisfied’ of a particular thing – in this case, that the depreciation scheduled proposed by ATCO complied with r 89. The clear implication of r 40(2) is that the ERA must assess compliance with the NGR correctly, and that it is only if the ERA correctly decides that a limited discretion component of the proposal is non-compliant that the ERA can substitute its own view on that matter.

360 As such, ATCO submitted that the ERA’s satisfaction is not to be read as conferring any sort of determinative character. ATCO relied on the operative aspect of r 40(2), that the ERA ‘may not withhold its approval’. While the expression of the condition for that is ‘if the ERA is satisfied’, ATCO submitted that, in the context of a regime in which there is a limited merits review under the NGL as the dominant instruction, the ERA being satisfied could not be read as being a determinative function. Satisfaction must be reached without there being a ground of reviewing attaching to the way it was reached.

361 In support of this construction, ATCO relied on commentary on previous iterations of the rule by the Standing Committee of Officials of the Council of Australian Governments on Energy matters (the **‘SCO’**). The former ‘limited discretion’ rule, r 39(2), read:

If the Law states that the [regulators] discretion under a particular provision of the Law is limited, then an element of an access arrangement proposal that is governed by the relevant provision must be regarded as acceptable if the AER is satisfied...

362 One of the several problems identified by the SCO in relation to this provision was that “[t]he concept of the [regulator] regarding as acceptable an element of an access arrangement

creates a double test and confuses the implementation of fit-for-purpose.” The SCO’s response to this issue was:

Accepted. This provision has been redrafted to make clear that the [regulator] must not withhold approval of an element of an access arrangement if the relevant requirements are satisfied.

363 ATCO submitted that this response indicates no intention for any degree of determinative force to be given to the ERA’s satisfaction, if it is vitiated by a ground of review. In such circumstances, it will not be a ‘satisfaction’ that properly gives rise to the discretion to displace a proposal.

364 Further, the SCO also raised for consideration that “[a]llowing the test for a limited discretion element of an access arrangement to be at the regulator’s satisfaction means that ‘limited discretion’ is, in fact, ‘full discretion’.” ATCO relied on the identification of this issue itself as indicative of a concern that the provision arrogates to the regulator too much discretion, and waters down the cascading gradations of the discretion rule as a whole. While the SCO responded with “Not accepted”, ATCO contended that such a response in fact highlighted that the SCO considered that the provision could never operate or be interpreted to operate as arrogating too much discretion.

365 ATCO submitted that its construction is also supported by the cascading nature of r 40, being that:

- (1) r 40(1) prohibits any discretion being exercised in relation to certain provisions;
- (2) r 40(3) provides for full discretion to be exercised and the regulator to have the ability to substitute a decision it simply prefers, provided it complies with the NGL; and
- (3) r 40(2) operates as a middle ground between the two.

366 ATCO submitted that this ‘scheme’ contemplates that there are rules that can be capable of being met in different circumstances and ways, and that the ERA may consider that the rule could be met in a more preferable way, but it cannot displace the preference of the regulated entity.

367 For example, if the Tribunal comes to the view that both are respectably efficient, but one is identified as more efficient than the other, then r 40(2) will apply because the efficiency requirement in r 89(1)(a) will still have been complied with. All ATCO has to do is satisfy the Tribunal that they have proposed a designed efficient depreciation regime.

368 ATCO identified that the real point of disagreement between the parties is what logically
flows from the submission made above: whether the Tribunal should form its own view about
the material submitted by ATCO under r 89 by considering the material itself and then decide
if ATCO's HCA approach was compliant.

369 ATCO accepted however that if, in the Tribunal's assessment, the ERA's conclusion that
r 89(1)(a) was not met, was not attended by an error of fact or an incorrect exercise of
discretion, then the ERA is not bound by the limited discretion.

370 As previously mentioned, s 28(1)(b)(iii) of the NGL may cause tension in relation to the
question. Section 28(1)(b)(iii) provides:

*The AER must, in performing or exercising an AER economic regulatory function or
power—*

(a) *perform or exercise that function or power in a manner that will or is
likely to contribute to the achievement of the national gas objective;
and*

(b) *if the AER is making a designated reviewable regulatory decision —*

...

(iii) *if there are 2 or more possible designated reviewable
regulatory decisions that will or are likely to contribute to
the achievement of the national gas objective —*

(A) *make the decision that the AER is satisfied will or is
likely to contribute to the achievement of the national
gas objective to the greatest degree (the preferable
designated reviewable regulatory decision); and*

(B) *specify reasons as to the basis on which the AER is
satisfied that the decision is the preferable
designated reviewable regulatory decision.*

371 ATCO contended that, in determining the interaction between r 40 and s 28, r 40, and the
NGR in general, should not necessarily be considered subordinate.

372 Further, ATCO sought to demonstrate that s 28 in fact fell within r 40(2) according to the
following string of definitions throughout the NGL:

(a) "designated reviewable regulatory decision" is defined in s 2 of the NGL as:

*an applicable access arrangement decision (other than a full access
arrangement decision that does not approve a full access
arrangement)*

(b) "applicable access arrangement decision" is defined in s 2 of the NGL to
mean:

(a) *a full access arrangement decision; or*
(b) *a limited access arrangement decision.*

(c) "full access arrangement decision" is also defined in s 2 of the NGL as:

a decision of the AER under the Rules that—

(a) approves or does not approve a full access arrangement or revisions to an applicable access arrangement submitted to the AER under section 132 or the Rules...

373 Therefore, ATCO submitted that a “designated reviewable regulatory decision” must, by definition, be one that complies with r 40. As such, the meaning of “*possible* designated reviewable regulatory decisions” is limited to decisions that comply with r 40(2).

The ERA’s submissions

374 The ERA accepted that its discretion under r 89 is limited, so that it could not withhold its approval of ATCO’s proposed depreciation schedule if it was satisfied that the schedule complied with the applicable requirements of the NGL and NGR, and that it was consistent with any applicable criteria prescribed by the NGL or NGR: r 40(2) of the NGR.

375 However, the ERA contended that there is no suggestion in the remainder of ATCO’s submissions that the ERA committed any reviewable error as a result of exceeding its limited discretion under r 89. The ERA pointed to ATCO’s submission that “[i]n the Amended Final Decision, the ERA came to the view that ATCO’s depreciation methodology was not compliant with the NGR”, as indicating ATCO’s acceptance that the ERA was not satisfied that its depreciation methodology complied with the NGR. Given this, the ERA submitted that ATCO could not challenge the discretion the ERA exercised under r 89(3).

376 In relation to s 28(1)(b)(iii), the ERA submitted that while there may be some tension between the provisions at first glance, broadly speaking the legislative provision should trump the rules.

377 In the alternative, however, the ERA submitted that the provisions can in fact be reconciled. Rule 40(2) requires compliance with the applicable requirements of the NGL and consistency with applicable criteria (if any) prescribed by the NGL. Therefore, the ERA contends that s 28(1)(b)(iii) is incorporated into r 40(2), and for r 40(2) to be satisfied, the ERA must demonstrate compliance with s 28(1)(b)(iii) in relevant circumstances.

378 However, the ERA’s more substantive response to ATCO’s allegations regarding the incorrect exercise of discretion turned on what the ERA submitted to be ATCO’s incorrect characterisation of the findings made by the ERA in relation to the accounting methodology as “findings of fact”.

379 The ERA submitted that correcting ATCO's mischaracterisation in this regard would dispose of 80% of the criticisms made of the ERA's determination.

380 The ERA relied upon *Australian Competition and Consumer Commission v Australian Competition Tribunal* (2006) 152 FCR 33 ('*ACCC v ACT*') at [171], where the Court identified findings of fact as:

- (1) *The existence of an historical fact being an event or circumstance.*
- (2) *The existence of a present fact being an event or circumstance.*
- (3) *An opinion about the existence of a future fact or circumstance.*

381 The Court further held (at [171]):

The ACCC's function under the [National Third Party Access Code for National Gas Pipeline Systems] involves assessment not only of historical and present facts but also of expert opinion on various matters relevant to the fixing of a Reference Tariff. The term "findings of fact" should be interpreted broadly enough to be meaningful in relation to the function of the ACCC under review. It should encompass opinions formed by the ACCC based upon approaches to the assessment of facts or methodologies which it has chosen to apply. The question of what constitutes a finding of "fact" varies according to the statutory context in which that word or like words are used.

382 Most relevantly at paragraph [172], the Court held:

*In reaching findings of fact in this broad sense the ACCC will necessarily make choices of a discretionary character as was pointed out in *Re Michael*. An example is the choice between permitted methodologies for the calculation of Total Revenue mentioned in s 8.4 of the Code. Such a choice is not a finding of fact. Nor is a finding of fact in error because it is based upon the use of one methodology rather than another. The relative weight to be given to the factors set out in s 8.10 is also a matter of discretion rather than a finding of fact which can be impugned as such.*

383 The ERA submitted that this passage directly applied to the subject matter concerning depreciation in this matter. In particular, the ERA submitted that this passage outlines the constraints that the Court imposed in respect of the review of that kind of discretionary methodological analytical subject matter and places that subject matter outside the realm of "findings of fact". On the basis of the above passage, the ERA essentially denied the claim that it was making "findings of fact".

384 Further, and in connection with the limited discretion arguments made by the ERA above, the ERA relied upon the further following passage in *ACCC v ACT* (at [176]):

The Tribunal has not been given a purely substitutive function in relation to the review of the ACCC's discretion. That is to say, if the ACCC has exercised its discretion on correct principles and if the particular exercise of the discretion was

open to it within the framework of the Code, the Tribunal is not empowered to set aside that decision simply because it thinks another decision would have been preferable.

385 Similarly, in *Application by Envestra Ltd (No 2)* [2012] ACompT 3, the Tribunal made the following observations (at [33] – [34]):

In ActewAGL at [34], the Tribunal considered the meaning of a “discretionary decision”. It stated:

It is most commonly applied to decision making which involves essentially a weighing up of relevant facts. First the decision maker finds the facts. Then the decision maker undertakes a weighing up process which involves taking into account considerations that are found to be relevant, assessing the weight to be given to those considerations so assessed and determining what, as a result of that process, is the right result.

This ground for review is not available merely because the Tribunal would exercise the discretion in a different way. In ElectraNet (No 3), the Tribunal stated at [72]:

the concept of incorrectness extends beyond “Wednesbury unreasonableness”, but on the other hand does not extend simply to where the Tribunal would have exercised the discretion in a different way.

Consideration

386 The Tribunal proceeds on the basis contended for by ATCO. There is a limited discretion, and if ATCO’s HCA approach complies with the NGR then it should be accepted by the ERA, even if the ERA regards its approach as preferable. The Tribunal must examine the analysis of the ERA in reaching its conclusion of non-compliance by ATCO, and if that analysis involves errors of fact, wrongful exercise of discretion or is unreasonable in result, reviewable error will result. The Tribunal needs to consider ATCO’s proposal in the course of this examination, to understand the analysis of the ERA and whether the ERA made any reviewable error in coming to the conclusion that the proposal was not consistent with r 89(1)(a).

387 In *Application by APA GasNet Australia (Operations) Pty Limited (No 2)* [2013] ACompT 8 at [222], the Tribunal described the approach:

In the light of those considerations, the Tribunal is of the view that no reviewable error on the part of the AER has been made out. The AER directed itself to the correct question and reached the view that it was not satisfied that APA GasNet’s proposed methodology promoted efficient growth in the market for reference services. The findings of fact made by the AER are not shown to have been erroneous. The conclusion based upon those findings is not shown to have been unreasonable in all the circumstances. There has not been an exercise of a discretion, that is the limited discretion allowed for under rule 79(3), which was misunderstood or which was incorrect in all the circumstances.

388 At the same time, the Tribunal is not to substitute its own preference as to the approach to depreciation, at least at this stage of the enquiry. The Tribunal is to focus on the analysis of the ERA, and to determine whether there is any reviewable error.

389 The Tribunal has come to the view that the ERA was correct in its analysis of whether there was compliance with r 89(1)(a), and therefore correct in rejecting ATCO's proposal. To a large extent, the question of whether ATCO's depreciation schedule complied with r 89(1)(a) is to be resolved as a matter of judgment or opinion, but based upon certain relevant facts. Once it is concluded that the ERA was correct in concluding that there was non-compliance with r 89(1)(a), then the ERA could reject ATCO's proposal.

Consideration

390 Before going into some detail as to the depreciation issue, the Tribunal makes the following observations. On this topic, much, but not all, of the analysis and argument has revolved around the use and interpretations of long-horizon (up to 60 year) forecasts of economic variables. At the outset, the Tribunal notes that limited confidence can be placed in such long-horizon forecasts, based as they are on demographic projections, consumption demand (which is in turn dependent on relative prices and incomes and consequences of technological change), and changing supply conditions and costs. Confidence must inevitably decline as the length of the horizon increases. Nevertheless, such forecasts are one piece of information which can be relevant to assessment of the relative efficiency of alternative depreciation approaches. It is thus appropriate for the Tribunal to consider the dispute between the parties over interpretation of the "facts" arising from such forecasts.

391 The Tribunal makes some further comments on reg 7 of the Local Provisions Regulations.

392 The ERA's rejection of ATCO's HCA approach includes reference to reg 7 of the Local Provisions Regulations which requires it to take into account effects on small users of the service. One consequence of ATCO's proposed switch to the HCA approach is that AR and thus tariffs will be higher for several years than would otherwise be the case (and lower in later years). ATCO's HCA approach was designed to moderate such shorter term price shocks. Figure 38 of the Amended Final Decision illustrates that the CCA approach results in lower AR per GJ in real terms until the early 2030s (and higher thereafter). The ERA "considers that it is clear that the adverse impact on consumers of moving to the HCA approach, even with ATCO's proposed transition, would be significant".

393 Regulation 7 states that the ERA must take into account the possible impact of tariff decisions on “users to whom gas is or might be delivered by means of a small delivery service” (reg 7(1)(a)), and “small use customers to whom gas is or might be delivered by those users” (reg 7(1)(b)). While this wording does not explicitly preclude consideration of future customers, the ERA has interpreted the higher near term prices arising from ATCO’s HCA approach as having undesirable consequences for current and future near-term customers and that the price outcome is at variance with this provision. The Tribunal is of the view that the ERA’s interpretation of this wording is not unreasonable, and thus consideration of such effects in making its decision is not inappropriate.

394 As previously indicated, however, reg 7(1) only requires the ERA to “take into account the possible impact”. While this provides support for the ERA considering this price effect in making its judgment, it does not imply that an adverse effect on current consumers is a sufficient reason for rejecting ATCO’s HCA approach. Consequently, the Tribunal is of the view that reg 7 does not, of itself, provide sufficient reason for the ERA’s rejection of ATCO’s HCA approach. However, the ERA is correct in taking account of adverse price impacts over AA4 (and AA5) on consumers as a contributing factor in making its decision.

395 Prior to determining whether the ERA made any errors, the Tribunal makes the following general observations.

General Observations - Capital cash flows under HCA and CCA

396 The Tribunal notes that there is a clear relationship between the alternative cash flow patterns over the life of a particular asset arising under the building block approach from the depreciation model adopted. As already explained above, the CCA approach involves a “flatter” path of real capital cash flows over time than does the HCA approach where the real revenues are (in a positive inflation environment) more “front end loaded”. For the case of an individual asset where demand is expected to gradually increase over time to, eventually, full capacity, the CCA approach creates (if the pattern of demand is the same in both cases) a time pattern of real tariffs which is more constant over the life of the asset. The reason is that the HCA approach will lead to higher real cash flows in the earlier part of the asset life when demand is lowest, implying higher real tariffs per unit of output in the earlier years and lower in later years. This effect is one of the motivations for the preference of Australian regulators for the use of the CCA approach. Also relevant in this regard is the likely effect of such differential tariff paths on the pattern of demand under HCA versus CCA. Higher real tariffs

in earlier years (under HCA versus CCA) can be expected to reduce demand and usage of the asset (when there is substantial excess capacity). The corresponding lower real tariffs later in the asset's life can be expected to increase demand when full capacity may be approaching, possibly bringing forward the need for new capital investment to expand capacity.

397 However, there are a number of complications to this analysis. First, from the perspective of the asset installation date, it is not clear which of CCA or HCA would lead to an eventual earlier date for full capacity and need for additional capex. The level of demand per period could, for example, be the same at later dates in both cases despite differential tariffs at that time. That could arise if, for example, the key determinant of total demand is the number of connected consumers, rather than consumption per head (and if disconnections are relatively price-inelastic). Under CCA, the rate of connections might be relatively higher in the earlier years, but with total connections being very similar at a common future date where the asset nears full capacity.

398 Identifying which depreciation approach would lead to an earlier or later eventual need for additional capacity is not a simple matter. The answer will depend *inter alia* on the responsiveness of demand (both consumer numbers and consumption per head) to tariffs (which reflect the input cost of gas as well as the regulated transmission and distribution charges), and a range of assumptions about the (quite distant) future.

399 A more relevant issue, however, is what the choice of depreciation model implies for the temporal pattern of the real total revenue stream for an access provider with a portfolio of assets of different vintages. This is unclear. Under the HCA approach, at any point in time, older assets will have lower real cash flows than if CCA applied, while the reverse will apply for newer assets. The net effect will thus depend upon the time pattern of capex.

400 This observation has two consequences. First, the theoretical arguments related to the efficiency consequences of the time pattern of cash flows associated with a particular individual asset are reduced in relevance – unless allowable revenues and associated tariffs are set on an asset by asset basis. Where revenues are set in aggregate across the entire portfolio of assets, as is the case under the building block approach, it thus becomes necessary to consider the time pattern of aggregate revenues.

401 The second consequence is that empirical analysis of the efficiency consequences of HCA versus CCA will require projections of the time pattern of aggregate revenues associated with

the current and future age distribution of capital assets. This is, in essence, what both the ERA and ATCO have done in forecasting comparative paths of AR over an horizon of many decades under the alternative assumptions of CCA versus HCA. There are no substantive matters of dispute in this regard; ATCO stated “no part of this application contends the ERA erred in relation to its AR per GJ forecasts between 2015 and 2080”. Those forecasts rely upon projections of demand (both connections - reflecting demographic trends and geographical distribution considerations, and consumption per head - reflecting *inter alia* relative prices and income) and consequent needs for future capex (which affects the RAB used in determining capital cash flows).

402 As noted earlier, such long term forecasts must be viewed with caution, and while they are possibly a “best estimate”, there is potentially a wide confidence interval associated with them. While it can be assumed that both the ERA and ATCO were cognisant of this, neither directly incorporated this element of uncertainty into the process of comparing far-distant AR and LRMC forecasts.

403 Considerations of longer term capacity utilisation and expansion requirements are only one aspect of efficiency considerations. More immediate, in terms of efficiency of consumption, is the effect of tariffs on the decisions of consumers regarding the level of consumption of gas relative to alternative uses of available funds. While tariff structures which involve both a per GJ charge and a fixed (per connection) charge can exert influence over that, optimal pricing is not a simple matter. It is in this regard that r 94 of the NGR incorporates the requirement that tariff structures should take into account LRMC, thereby incorporating both short run variable operating costs but also implications of increased demand on future capex expansion needs.

General Observations - Forecasting the LRMC

404 Both parties attempted to forecast future values for the LRMC for comparison with contemporaneous AR figures under HCA versus CCA. The Tribunal notes that both have assumed a future consumption path common to both cases which is *a priori* problematic – since differential tariff paths under each may affect the time pattern of consumption. That however, is likely to be of second order importance, particularly given the possible lack of robustness of other assumptions used in the exercise.

405 Just as forecasts of AR for far different dates must be subject to wide confidence bands, so to must forecast of future LRMC values. The same uncertainties about reliability of

demographic projections, consumption demand (which is in turn dependent on relative prices and incomes and consequences of technological change), and changing supply conditions and costs also apply in this case. Indeed, given the complexities in appropriately defining and measuring LRMC (as discussed later in these reasons) the confidence bands for far-distant LRMC values are likely to be even wider than those for AR. Indeed, the Tribunal has considerable doubt whether attempting to forecast this variable in precise quantitative terms over an horizon of sixty plus years is a valuable exercise, and thus whether the results of which provide valuable guidance for decision-making.

406 Because confidence in such forecasts must inevitably decline as the length of the horizon increases, comparisons of forecast LRMC and AR over a shorter time period are likely to have greater reliability than those for far distant horizons.

407 The Tribunal now turns to consider the factual issues underlying the errors claimed by ATCO to have been made by the ERA.

Cross-subsidisation

408 In ATCO's Review Application, much was made of the language used by the ERA in describing the temporal effect of the different approaches on tariffs. Objection was raised to the use of terms such as "bringing forward revenues" and "current consumers subsidising future consumers" as a result of higher near term tariffs under HCA than under CCA.

409 There is some merit in this complaint, in that such terminology presupposes that outcomes should be judged from a benchmark position of the CCA approach. However, these matters are primarily ones of semantics and should not be allowed to confuse the key issues. It is a matter of fact that:

- (1) use of HCA will, relative to CCA, lead to higher near term revenues and lower longer term revenues from return on and return of capital over the life of an asset; and
- (2) given a consumption stream common to both cases, HCA will, relative to CCA, involve higher near term prices and lower longer term prices.

410 ATCO contended that the ERA made errors in claiming that ATCO's HCA approach involved "subsidies" from current to future consumers. It is true that if there is a single "correct" (on some criteria) depreciation schedule and associated revenue and tariff path, but an alternative depreciation schedule is used, then there will be some unjustified cross-subsidisation between current and future consumers.

411 To the extent that the ERA has correctly determined that its approach is the “correct” one, there is no error in making such a statement. However, if it has incorrectly rejected a “correct” ATCO proposal, then the ERA’s statement is an error.

412 However, that is a consequence of a decision about the choice of depreciation schedule which is under review, and thus not an independent source of error. Unless it can be shown that the view regarding subsidies incorrectly led to the decision on the depreciation schedule to be adopted, it is not an independent source of error. This has not been shown, and the significant resources devoted to identifying the relative merits of alternative schedules would suggest that it is not the case.

413 The Tribunal is of the view that while the choice of language used to refer to differences in projected tariff paths under alternative depreciation schedules is unhelpful, it does not constitute a reviewable error. Since the comments relating to inefficient and equitable allocation of the cost of capital to current and future consumers are essentially the same comments expressed differently, the same decision applies here.

Efficient growth and asset management

414 ATCO also claimed a number of errors were committed by the ERA in conjectures made relating to adverse consequences for efficient growth and management of assets of the HCA approach and transition path advocated by ATCO.

415 In the Amended Final Decision, the ERA asserted that under the HCA approach, ATCO may have an incentive for earlier replacement of assets nearing the end of their economic life “to be able to earn a higher return on the replacement cost of a new asset.” This would appear to confuse dollar amounts with rates of return, since the effect would simply be to lead to a higher dollar revenue on a higher asset base, but with no change in rate of return achieved. Management decisions could be driven by the absolute size of revenues rather than the rate of return on invested capital (and differences between accounting book values and RAB values could be relevant here). However, there is no evidence provided to the Tribunal to support or refute such a conjectures. Nevertheless, the conjectures were not central to the reasoning of the ERA in reaching its conclusions as to compliance with r 89(1)(a). If anything, the comments of the ERA were employed merely to support its conclusion otherwise reached, and the conjectures were more by way of commentary.

Efficient growth of the market and the LRMC curve

416 ATCO contended that its depreciation proposal was consistent with the provisions of r 89 of the NGR, and particularly that it would satisfy r 89(1)(a) regarding efficient growth in the market, and r 89(1)(e) regarding adequate cash flow to meet the access provider's reasonable needs.

417 It is the assessment of ATCO's proposal against r 89(1)(a) which constitutes the main issue in dispute. ATCO argued that the ERA made an error of fact in determining that its depreciation proposal would lead to a less efficient outcome, and that therefore it was not consistent with the NGR.

418 The most fundamental area of contention lies in the technical issue of calculation of current and future LRMC curves. The concept of LRMC is well accepted in the economics literature as the change in costs arising from a marginal increase in output when all input factors of production are allowed to vary. This is in contrast to short run marginal cost, in which certain inputs, such as capital, are assumed to be fixed.

419 Applying this concept in practice becomes complicated because increments to capital are typically lumpy with long lives. This means that for significant periods of time there can be spare capacity, such that increases in the level of output can occur without any need for increased capital inputs until some future date when market growth means that capacity is reached. However, a sustained increase in the rate of consumption can mean that capacity utilisation will occur sooner than would otherwise occur, thus bringing forward capex such that this cost has a higher present value. It is generally argued that prices should reflect LRMC since consumer demand will then be responding to current production costs but also to future cost consequences for timing of additions to capacity.

420 There is no substantive divergence of views on the "relevance" of LRMC in setting of tariffs. This is reflected in the r 94(4) referred to earlier.

421 LRMC is an hypothetical economic construct which refers to the cost of providing increments in the rate (per period) of output from a specified output level when all factors of production (and in particular capital) are variable. It is thus generally defined and described as a curve where a cost figure is related to output levels, and has its most simple interpretation as showing the additional cost of increasing output from present level to various output levels if capital input could be varied rather than fixed. In doing so, the

question becomes what cost should be attached per period to the increase in capital, since the increase in capital enables a higher rate of output over a long period (its economic life). It is thus inappropriate to allocate the entire purchase price of the capital goods to the current period.

422 In principle, the cost of renting that capital item for the current period to expand output is the appropriate cost, but that figure cannot be observed in cases such as this where the nature of the capital assets does not lend itself to existence of a rental market. Instead, some measure of calculating an implicit rental price is required (and that is what approaches such as calculation of AIC discussed later are attempting to achieve).

423 This is, in fact, in accordance with the approach followed in the regulatory building block approach, where capital cash flows allocate the cost of the capital asset over the life of the asset, mimicking a rental cost. What that underscores however, is that there is no unique method for making that calculation, since the pattern of capital cash flows over the life of the asset will vary depending upon the depreciation schedule adopted.

424 A particularly significant complication which arises in the current discussion is that the calculations being undertaken attempt to estimate LRMC at future dates in time. These are based on an assumption that at any of those future dates there is a specific rate of output in existence from which the cost of changes in output can be estimated. The LRMC estimated for that future date thus requires an assumption about the implicit rental cost of an additional unit of capital at that date. It also requires an assumption about the productivity of capital (the number of units of resulting output) at that time so that a cost per unit of output can be derived.

425 Since the delivered output in this case involves transport to the consumer, the spatial distribution of future consumers (rather than simply their number) will also be a determinant of costs.

426 For later reference (since this is relevant to one point at issue), it should be noted that output (GJ) can be equated to the product of “customers” (connections) and “GJ per customer” (average consumption).

427 One point of contention is whether over the distant future periods under consideration the marginal changes in output (GJ) are more related to changes in connections or changes in average consumption.

Reference to historical LRMC Estimate

428 ATCO argued that the ERA erred in suggesting that the LRMC was increasing over time by relying on LRMC for past periods and comparing that to the estimate for current and future periods.

429 ATCO referred to statements of its experts (and other consultants) that the LRMC is a “forward looking” concept and argued that this makes estimation of a LRMC for a prior date or period invalid.

430 As noted earlier, LRMC is an economic concept which shows the change in costs of a change in an output level when all inputs are variable. While LRMC is potentially of most use in looking forward to identify the costs associated with changes in output from the current or future levels, there is no inconsistency in examining the cost of changes in output from levels which prevailed in the past. Arguably, such an estimate may be more precise than forward looking estimates since actual data can be used in the calculation. However, whether the change in actual capex occurring over that period used in estimation of the LRMC was the optimal long run change implicit in the LRMC may be open to debate. The Tribunal is thus of the view that the reliance of the ERA on calculation of LRMC for a past period, as part of determining its view that LRMC was increasing over time, was not, of itself, an error of fact.

Undue attention to LRMC per connection

431 ATCO contended that the ERA gave undue attention to the LRMC per connection relative to the LRMC per GJ. As noted earlier, total consumption (GJ) is the product of “connections” (consumers) and “consumption per connection”, such that both are relevant to changes in total consumption.

432 While in the short run there seems little question that consumption per connection is the most likely determinant of changes in total consumption, this is much less likely in the longer run where the number of connections is likely to be relevant. ATCO made the point that the number of existing customers dwarfs new connections (700,000 versus 14,000 p.a.) with the implication that consumption per connection is more important. However, while marginal changes in consumption per existing customer can have implications for capacity utilisation and thus need for additional capex to serve those customers, it is likely that new capex is aimed primarily at servicing new areas of population growth (or increased demand from higher density of customers in existing service areas).

433 Since the focus of the quantitative LRMC analysis is long term, focusing upon efficient growth of the market, attention to LRMC per connection does not appear inappropriate. Moreover, even though existing customers far exceed new customers per annum, the increase in demand from the former group relates to their marginal change in consumption, whereas for the latter it is their average consumption (having previously been zero). Which figure is larger is an empirical matter. However, it has not been demonstrated before the Tribunal that the disparities in size would be so great as to rule out consideration of analysis based on new connections. The Tribunal is thus of the view that the use by the ERA of LRMC per connection in assessing the future path of LRMC and resulting alignment with AR is not a reviewable error.

Depreciation schedules, the LRMC curve and efficiency

434 The connection between depreciation schedules, LRMC and efficient market growth stems from the likely time pattern of future total revenue and thus AR (and tariffs) associated with different depreciation schedules. The question at issue here is which depreciation schedule is more suited to generation of future projected allowable revenue streams that, given the projected consumption stream, would enable closer correspondence of tariffs with LRMC over time.

435 As has been outlined above, CCA depreciation involves less “front end loading” of real revenues (capital cash flows) than the HCA approach. Operating costs are ignored since they are likely to be similar regardless of depreciation schedule, and thus not an issue in dispute – although they should be included in LRMC calculations.

436 ATCO introduced the argument that quantitative analysis should be used to assess the impact of the depreciation schedule on the relationship between the future expected stream of AR and future LRMC in its access proposal. It asserted the principle advanced by NERA that “...the depreciation schedule should be designed to minimise the gap between LRMC and the revenue per unit to be recovered over the life of the asset”. ATCO produced modelling results from spreadsheet analysis that, it argued, demonstrated a smaller gap from the use of the HCA approach. The ERA engaged with this argument, requesting the underlying spreadsheet and undertaking its own analysis based on both maintaining and varying some of the assumptions contained therein.

437 Over the course of the regulatory process, and subsequently into the hearing, purported errors and incorrect assumptions in the spreadsheet modelling were claimed by each party. The

range of possible errors and arguably incorrect assumptions is quite large, particularly since the modelling envisages an horizon out to 2080.

438 There are a number of issues involved in assessing the positions of both parties on the future level of LRMC. First, there is the theoretical definition of LRMC. There appears to be no substantive disagreement on this, although whether focus should be more upon LRMC per GJ or LRMC per connection is a fundamental point of contention. Second, there is the hypothesis that aligning AR as closely as feasible to LRMC is consistent with promoting efficient consumption and growth of the market. There appears to be no substantive disagreement on this. Third, there is the question of how, in practice, the LRMC at any date (now and in the future) is to be estimated. While there are a range of practices which have been advanced in the literature, there appears to be no substantive disagreement on use of AIC to undertake this calculation. Fourth, there is the mechanics of how to apply the AIC method. There is significant disagreement in this regard in several respects. One (explained in more detail later) is in the context of what horizon should be used in the calculation of the AIC (eg whether one-, eight-, ten-, or twenty- year horizons should be used). Fifth, there is the appropriate use and interpretation of historical data to derive forecasts of how the AIC might change over future decades. There is significant disagreement on those, with the ERA presenting additional evidence in its Amended Final Decision from unpublished Australian Bureau of Statistics ('ABS') data of historical figures for the implicit price deflator applicable for capex for the electricity, water and gas sector, which facilitate an alternative interpretation of past trends to that advanced by ATCO.

Productivity trends and LRMC

439 In estimating the LRMC, ATCO claimed that the ERA erred in not taking into account the views and expert evidence that increasing productivity of capital would be relevant to the level of the LRMC in future years, causing it to decline over time. ATCO's argument is based on two types of evidence. One is the historical trend in the implicit price deflator for capital goods calculated for relevant industry categories. ATCO provided such data showing, what it claimed to be a declining trend in the cost of capital goods for the period 1987-2014 for ABS data for electricity, gas, water, and waste water sectors, and asserted that this trend could be expected to continue. The associated inference is that there is increasing productivity of capital goods in the sense of a lower LRMC based on the assumption that the cost of a unit of capital goods producing the same output level is declining. In its Amended

Final Decision, the ERA provided more granular ABS data relevant to the sector and argued that since the early 2000's the trend has been relatively flat. The second type of expert evidence was the analysis provided by ATCO that (implicit) general equilibrium analysis would lead to the expectation that the costs of capital intensive industries would fall relative to the general price level over time.

440 Considering the first piece of evidence, there are two substantive considerations. The first is the robustness of projecting past trends decades into the future, even for magnitudes which have been relatively slowly changing over past years. The cost and productivity of capital goods reflects both technological advances as well as the cost of the physical inputs which are used in their construction. Forecasting both of these ingredients into the far distant future, based on historical trends, is more an act of faith than analysis. The second is that the supply cost of capital goods is only one component of the capital related cost of supplying additional units of output. For example, additional connections at future dates may involve significantly different geographical dispersion to current connections thus requiring more or less units of capital goods for supply. It is undoubtedly the case that suppliers making current capital investment decisions (including whether to defer investment) need to make assumptions about cost and productivity based on the long economic life of assets involved. But attempting to forecast how these matters will play out in affecting such decisions to be made in several decades into the future is highly speculative. The Tribunal is of the view that the ERA did not make an error or act unreasonably in its consideration of the implications of historical productivity trends

441 The second piece of expert evidence provided involves economic analysis in the form of an argument that with ongoing technical progress, the cost of capital goods could be expected to fall over time relative to the general price level. The Tribunal agrees with the ERA that the issue is far more complex than suggested, and therefore does not attach much weight to this.

The AIC approach to estimated LRMC

442 The use of the AIC method for estimating LRMC was adopted, albeit with substantive differences in implementation, by both parties. The AIC approach is, at best, an approximation to the true concept of LRMC, and is essentially a proxy for the unobservable one period rental cost of capital, which could be consistently related to a one period increase in output.

443 An approach such as the AIC method is needed because an increase in capital provides increased capacity for a sustained increase in output over the economic life of the asset. It can be calculated for any date t and the associated level of projected output at that date. It involves:

- (1) taking a projection of the increase in output over the date t level of output (Q_t) for some number (T) of subsequent years, represented ($Q_{t+k} - Q_t$) where k takes on values 1 to T;
- (2) taking projections of required capex (I_{t+k-1}) in years t to T-1 required to meet that output path; and
- (3) calculating the present value of each projection and calculating the ratio of discounted capex to discounted output increase to give the AIC.

444 In practice, the estimate should also take into account changes in opex, denoted by $O_{t+k-1} - O_t$, associated with the changed level of output. While correct estimation of real changes in opex were a matter of contention between the parties, those matters appear to have been resolved and make little difference to the matter under dispute. Hence, for ease of exposition, opex is ignored in the following discussion.

445 In symbols, the standard formula for AIC is of the form:

$$AIC_t = \sum_{k=1}^T \left(\frac{(O_{t+k-1} - O_t) + I_{t+k-1}}{(1+i)^{k-1}} \right) / \sum_{k=1}^T \left(\frac{Q_{t+k} - Q_t}{(1+i)^k} \right)$$

446 Note that the denominator involves a discount factor slightly different to that in Marsden Jacob Associates report, '*Estimation of Long Run Marginal Cost*', which both parties rely upon, and which appears to be in error – although the effect is of second order importance. This formula also differs slightly from those provided by ATCO in a supplementary note of 25 February 2016 which uses Q_{t-1} as the benchmark output level for which AIC_t is calculated. This is of minor import in the context of analysis where the estimates are related to changes from projected output levels decades into the future.

447 To see intuitively the correspondence of this to inclusion of a rental cost of capital, consider a case where the increase in Q compared to Q_t were a constant amount (C) for each year to date T which is also the economic life of the asset, and that there was only a once off capex of ' I_t ' required at date t to meet that increase in output, the change in opex being ignored, then:

$$AIC_t = \frac{I_t}{C \cdot \frac{(1 - (1 + i)^{-T})}{i}} = \frac{iI_t / (1 - (1 + i)^{-T})}{C}$$

448 The numerator indicates that the AIC thus involves allocating only part of the capex cost to the current year increase in output (in this case the annuity value equivalent of the total cost), and spreading the total amount over the asset life, equivalent to calculating a rental cost of capital.

449 In practice, the approach cannot be applied so simply, and the conventional approach is to take some relatively long horizon over which the increase in output and capex are forecast. Even if this horizon is equal to the economic life of the asset, there will be capacity created during the period prior to the horizon date and available for output beyond that horizon (and the same is true if the horizon is less than the economic life). But, if the assumption is made that there is no significant change over time in the proportion of the whole of asset-life's output capacity captured in the horizon, the AIC estimates made at different points in time will move in accordance with the true LRMC changes.

450 These are somewhat heroic assumptions, which are mitigated somewhat by assuming a relatively long horizon and keeping the horizon used of constant length in calculating the AIC at different points in time. In that regard, ATCO is correct to criticise the ERA for using periods of different length in calculating the AIC at different points in time as occurs in some of the estimates presented. The shorter the horizon used, the smaller the proportion of life-time output captured, thus potentially increasing the risk of error – although the effect of discounting is to reduce the weight given to further distant amounts. It is also the case that using a short horizon over which to calculate the AIC is likely to result in greater variability in resulting estimates, given the inherent lumpiness of new capex.

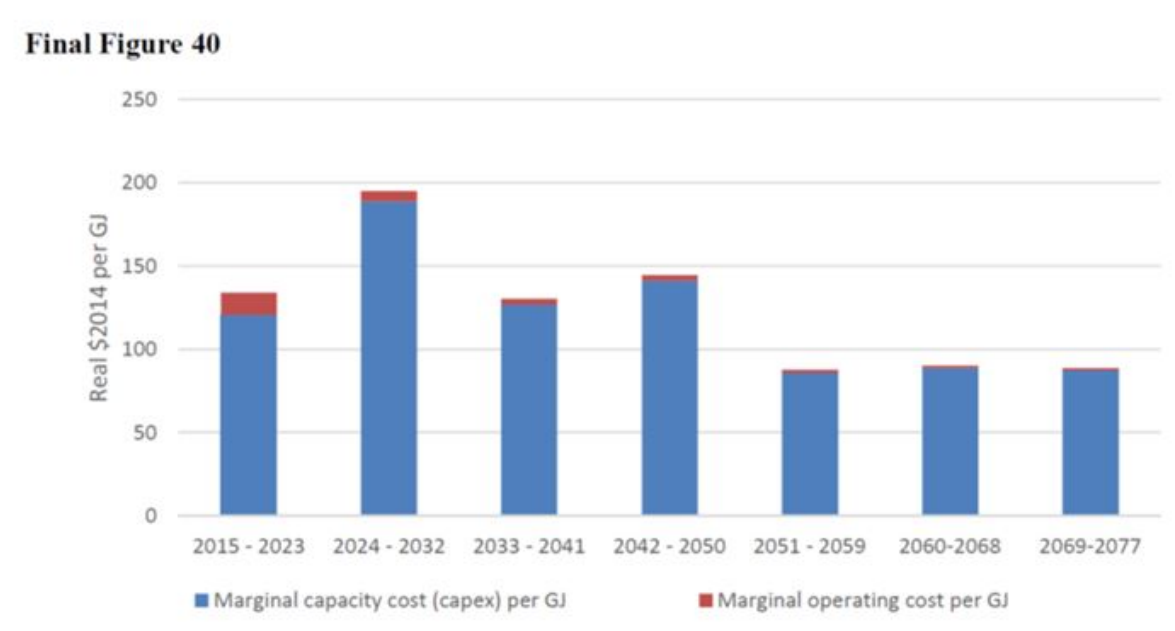
The agreed shape of LRMC curve

451 It is beyond the scope of the Tribunal's function to review the details involved in the spreadsheet modelling behind the calculation of the AIC and comparisons with AR, nor does the Tribunal believe it is necessary for it to do so.

452 Both parties have ultimately reached at least a partial consensus on the time profile of LRMC, at least over the medium term as reflected in the Final Figure 40 (as shown in the graph below). This was presented by ATCO on 25 February 2016, and reproduced in the ERA

document dated 26 February 2016 where it is stated that “[t]he ERA has no objection to that rendition”.

453 Final Figure 40 provided estimates of the LRMC derived using the AIC method, assuming periods of nine years, commencing in 2015. While it does not incorporate a LRMC figure for the historical period 2006-2014, the Tribunal does not infer that the ERA was, in not objecting to that rendition, agreeing with ATCO’s position that it was not permissible to calculate LRMC at an historical date.



454 The issue then becomes interpretation of Final Figure 40 and its relationship to revenue streams arising from alternative depreciation schedules. This is a key point of dispute between the parties, with the ERA arguing that (real) LRMC is, if anything, expected to increase over time and ATCO arguing the reverse. These positions lead directly to the respective positions regarding whether the CCA approach or ATCO’s HCA approach support the efficient growth of the market.

455 Final Figure 40, particularly once the 2006-2014 LRMC estimate (which is less than \$50) is incorporated, is argued by the ERA to demonstrate that LRMC is not declining in the period up to 2050. The Tribunal’s interpretation of that figure is that LRMC is shown to be increasing at least up until the period 2024-2032. In the subsequent two periods (up to 2050) it reverts to a similar value to the 2015-2023 estimate. In contrast, ATCO placed emphasis on the period out to 2069-2077 where, from the 2042-2050 period there is a clear declining trend. Whether there is a declining trend from an earlier period, such as 2024-2032, relies

upon one's subjective assessment of whether the 2024-2032 figure should be viewed in isolation or whether it is an aberration from the figures for the periods both immediately before and after.

456 The Tribunal is of the view that the uncertainty which must surround estimates of LRMC for dates several decades into the future is sufficient to justify a reasonable person not attributing significant weight to those estimates relative to estimates for earlier periods. In this regard, the approach of the ERA in focusing on more near term estimates is appropriate. It was not unreasonable for it to interpret the estimates for LRMC associated with Final Figure 40 as indicating an upward or flat trend in LRMC over the next few access periods. For that reason, the Tribunal does not regard the ERA as having made an error in its assessment that LRMC per GJ, and also LRMC per connection is likely increasing in real terms over the next several decades.

Assessing correspondence between LRMC and AR TimeProfiles

457 Whilst there was a submission made by ATCO that the ERA did not properly consider the statistical analysis of differences in LRMC and AR, this is not a significant matter in determining whether ATCO in fact complied with r 89(1)(a).

458 The important and central issue is the time period over which the LRMC-AR comparisons should be made. As outlined earlier, the degree of confidence which can be held in the accuracy of both LRMC and AR forecasts several decades hence is relatively low, and lower than confidence in forecasts for earlier dates. Arguably, lower weight should also be applied to far distant differences in LRMC-AR by some form of time-discounting. Consequently, the Tribunal is of the view that little weight should be given to the comparisons of forecasts for several decades hence. The ERA did not commit an error of fact or act unreasonably in relying on comparisons over a shorter horizon.

459 While the parties had, by the conclusion of the Tribunal's hearings, reached agreement on a set of forecasts for future LRMC values (Final Figure 40 above), they remain divided on how to best interpret those for assessing the matter under consideration. That is whether use of HCA depreciation is preferable to CCA depreciation. The key issue is whether ATCO's proposed approach failed to satisfy r 89(1)(a) of the NGR "that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services". Despite agreement on Final Figure 40, the ERA contended that the increase in LRMC over the period from AA3 to (at least) 2024-2032 is evidence that ATCO's HCA Approach is not

consistent with r 89(1)(a) since CCA depreciation gives the appropriate alignment of AR with LRMC. Conversely, ATCO argued that taking into account the forecasts out to 2069-2077 and ignoring the AA3 estimate, the forecasts imply better alignment of AR from HCA with LRMC.

460 After considering the debate between the parties, for the reasons discussed above, it is the Tribunal's view that the ERA was correct in determining that ATCO's HCA approach is inconsistent with r 89(1)(a) of the NGR, and so it did not err in rejecting ATCO's proposal.

CORPORATE SUPPORT COSTS OPERATING EXPENDITURE

461 ATCO seeks a review of the ERA's determination of ATCO's forecast opex, specifically its corporate support opex. Broadly, ATCO contended that the ERA's error is its failure to include in the forecast, opex costs of \$1.4 million in 2015 for preparation costs relating to the current access arrangement review process.

Legislative framework

462 Under r 76(e) of the NGR, one of the building blocks is a forecast opex for the year.

463 Rule 91(1) of the NGR provides that opex must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.

464 Pursuant to r 91(2), the ERA's discretion under r 91 is limited. The nature of that limitation was noted in the discussion on capex and depreciation. Rules 71 and 74 apply to forecast opex. The operation of those provisions was noted in the discussion on capex.

The nature of the dispute

465 ATCO's dispute relates only to the ERA's failure to include in the forecast opex any preparation costs in 2015. To better understand the dispute, it is useful to set out the process under the NGR by which an access arrangement commences and the timelines by which that typically occurs.

466 An access arrangement must contain a 'review submission date': r 49(1)(a). This is the date by which a service provider must submit an access arrangement revision proposal to the regulator: r 52(1). The regulator may extend the period for submitting an access arrangement revision proposal, however that period cannot exceed 2 months: r 52(3).

467 An access arrangement must also include a 'revision commencement date': r 49(1)(a). This
is the date by which the revisions resulting from a review of the access arrangement are
intended to commence. However, the actual date of commencement may not necessarily be
this date (see Pt 8, Div 8 of the NGR).

468 Generally, the review submission date and revision commencement date are to fall four and
five years respectively after the last revision commencement date: r 50(1). This contemplates
a "typical" access arrangement period of five years and up to a year to complete the process
for approval of a subsequent access arrangement revision proposal. It also means that
preparatory work in relation to a subsequent access arrangement revision proposal must
necessarily occur during the currency of an existing access arrangement period. For that
reason, each access arrangement period will usually include forecast opex relating to the
subsequent access arrangement period.

469 The previous access arrangement, AA3 required ATCO to submit its access arrangement
revision proposal by the review submission date of 1 July 2013. However, that date was
extended to address amendments to the NGR that were made in November 2012. This arose
in the following way.

470 Clause 34 of Sch 1 to the NGR varied r 52(3) to provide that the period for submitting an
access arrangement revision proposal under r 52 may be extended by a period of no more
than 18 months with respect to the next access arrangement revision proposal. Clause 35(1)
of Sch 1 to the NGR required the regulator to exercise its power under r 52(3) (as modified
by cl 34 of Sch 1) to extend the period for submitting the next access arrangement revision
proposal until three months after the date the first rate of return guidelines are published
under cl 37 of Sch 1.

471 The rate of return guidelines were published by the ERA on 16 December 2013, and the time
for ATCO to submit its AA Revision Proposal for AA4 was extended until 17 March 2014
(the first business day after 16 March 2014). The actual revision submission date was
therefore some eight months later than the 1 July 2013 date specified by AA3, and some three
months before AA3 was scheduled to end in June 2014.

472 As required, on 17 March 2014, ATCO submitted to the ERA its AA Revision Proposal for
AA4. That period is five and half years, because of the delays outlined above.

473 Compliance with the regulatory process prescribed by the NGR involves costs associated with, among other things, preparing the access arrangement proposal and revisions, preparing and responding to submissions, and reviewing and responding to decisions of the regulator (collectively, '**preparation costs**'). The preparation costs include both internal costs (for example, management time) and external costs, such as the costs of technical and legal consultants.

474 Preparation costs for the current AA4 access arrangement revision process were included in the opex forecasts used to determine ATCO's total revenue for AA3. However, ATCO suggested that the actual amount was never specified by the ERA.

475 The categories of opex proposed by ATCO for AA4, and considered by the ERA, included corporate opex, comprising corporate support costs, business development and marketing and licence fees. The corporate support costs category included forecast opex relating to internal support costs for ATCO's finance and tax, human resources, corporate affairs, legal, regulatory and information technology cost centre functions and intercompany charges.

476 In the AA Revision Proposal, ATCO sought \$2.4 million to cover AA4 preparation costs for the period 1 July 2014 to 31 December 2014 ('**2014-2H**') and 2015. This was in addition to any costs allowed in AA3 attributable to AA4 preparation costs.

477 In its Draft Decision, the ERA was not satisfied that ATCO's corporate support opex was consistent with what a prudent service provider acting efficiently would incur. Rather, the ERA considered that the expenditure incurred by ATCO for 2013 represented the best forecast possible in the circumstances. In its Draft Decision, it said:

The Authority considers that the provision of corporate support services of the nature provided by the cost centres described above are a necessary function of the prudent operation of a large business. However, the Authority is not satisfied that ATCO's proposed corporate support operating expenditure is consistent with what a prudent service provider acting efficiently, in accordance with good industry practice, to achieve the lowest sustainable cost, would incur because of the following:

- *ATCO has not adequately justified the need for significant increases in forecast internal support costs; and*
- *ATCO has not demonstrated the value received from the forecast intercompany charges.*

As a result, the Authority is not satisfied that the annual forecast corporate support expenditure, which includes both internal support costs and intercompany charges, should be increased above the level of corporate support expenditure incurred by ATCO in 2013 of \$12.30 million (\$67.65 million over five and a half years). The

Authority considers that the expenditure for 2013 represents the best forecast possible in the circumstances and is arrived at on a reasonable basis for the following reasons:

- *ATCO has had an incentive to reduce operating expenditure in the current access arrangement because it can capture the resulting cost savings, so its revealed costs in 2013 should form a reasonable basis for determining the allowance required for corporate support operating expenditure; and*
- *by 2013, ATCO would have had two years to determine the efficient corporate support spending level following its due diligence during the GDS purchase process.*

478 However, the ERA allowed a one-off expenditure of \$2.10 million for the preparation of ATCO's AA5 proposal, divided between 2018 and 2019. In the ERA's view, this represented a reasonable forecast of the costs to be incurred based on the costs relating to the access arrangement proposal for AA4.

479 In its Amended AA Revision Proposal, ATCO proposed an increase in corporate support opex for: (a) 2014-2H and 2015, as a result of increased requirements associated with the AA4 access arrangement revision process; and (b) in 2018 and 2019, as a result of increased requirements associated with the AA5 revision process. It sought \$3.4 million in preparation costs in 2014 and 2015, and \$3.3 million in 2018 and 2019 for preparation costs associated with AA5.

480 In February 2015, ATCO provided the ERA with its regulatory financial statements for the year ended 31 December 2014, which contained information regarding ATCO's actual expenditure (including corporate opex) for 2014-2H. ATCO submitted that the information in the regulatory financial statements was directly relevant to the review process and should be taken into account when considering the expenditure incurred and forecast by ATCO for AA4.

481 In its Final Decision, the ERA purportedly approved corporate support costs of \$2.1 million for 2014-2H and 2015 for AA4 preparation costs, and \$2.4 million divided equally between 2018 and 2019 on preparation costs for the AA5 access arrangement. In rejecting ATCO's proposed increases, the ERA said in its Final Decision:

ATCO has rejected the Draft Decision's estimates of \$2.10 million on preparation costs for this proposed revised access arrangement and \$2.40 million on preparation costs for the next proposed revised access arrangement. ATCO has proposed \$3.4 million on preparation costs for this proposed revised access arrangement and \$3.3 million on preparation costs for the next proposed revised access arrangement. ATCO has justified additional costs by reference to expenses of answering additional

questions on the proposal, and the required amendments of the Draft Decision. The Authority does not accept this justification on the following grounds:

- *ATCO has not provided any evidence to justify the additional costs, which is inconsistent with rule 74 of the NGR; and*
- *ATCO has not demonstrated how answering questions in relation to unclear and deficient information in its proposal and addressing the Draft Decision's required amendments is not part of the daily operations of the regulatory team.*

482 However, there was an error in the Final Decision which the ERA later acknowledged in the Amended Final Decision. What the ERA said it had intended in the Final Decision was only to approve \$2.1 million for AA5 preparation costs (to be incurred in 2018 and 2019), not the same costs for 2014-2H and 2015 in respect of AA4 preparation costs.

483 In remedying this error in its Amended Final Decision, the ERA did not approve any preparation costs for AA4. The ERA maintained its reasoning from the Draft Decision and rejected ATCO's proposed \$3.40 million for preparation costs for AA4 and \$3.30 million for preparation costs for AA5. In its Amended Final Decision, it said:

The Authority did not include preparation costs in the revenue building block for the fourth access arrangement period in its Draft Decision which was evidenced by not including this expenditure in the total operating expenditure approved by the Authority. The Authority acknowledges that the wording in paragraph 243 of the Draft Decision may have caused some confusion. However, paragraphs 250 and 251 and Table 13 of the Draft Decision demonstrate that the Authority only approved one-off expenditure of \$2.10 million for the preparation of the next access arrangement proposal (for the fifth access arrangement period), divided between 2018 and 2019.

484 The ERA's reason for reaching this conclusion was that it was not satisfied that ATCO's claim for extra preparation costs for AA4 was consistent with r 91(1). The ERA was also not satisfied that ATCO had provided sufficient evidence to justify the extra AA4 preparation costs, which was said to be inconsistent with r 74. The ERA said:

The Authority does not approve preparation costs for this revised access arrangement in 2014 and 2015 as:

- *Rule 91 of the NGR requires that operating expenditure must be such as that incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services. Prudent and efficient operating expenditure was forecast at the time of the third access arrangement review for expenditure during that period and incorporated into the calculation of total revenue. As a result, the forecast operating expenditure for the third access arrangement period was prepared on the assumption that expenditure related to the preparation of the fourth access arrangement review would have been*

*incurred during the third access arrangement period. The inclusion of operating expenditure now for the preparation of the fourth access arrangement review during the fourth access arrangement period would be a **windfall gain** for ATCO and would not be in the long-term interest of consumers in accordance with the National Gas Objective.*

- *A prudent service provider acting efficiently would have incurred the majority of expenditure related to preparing an access arrangement review prior to submitting its access arrangement, which was during the third access arrangement period.*
- *ATCO has not demonstrated how answering questions in relation to unclear and deficient information in its proposal and addressing the Draft Decision's required amendments is not part of the daily operations of the regulatory team. The Authority notes that had it been provided sufficient information at the time of lodgement, most of these questions could have been avoided.*
- *ATCO also provided revised numbers and forecasts, particularly for Information Technology expenditure and Unaccounted for Gas a considerable time after lodgement of the access arrangement. Also, ATCO provided numerous other letters and submissions to the Authority following lodgement, outside of formal consultation processes, which has contributed to the delay in reviewing this access arrangement. The Authority considers that allowing a service provider to recoup costs for submitting further information after it has submitted its access arrangement would provide a perverse incentive to service providers. The Authority considers that consumers should not have to incur these costs.*
- *ATCO has not provided sufficient evidence to justify the additional costs, which is inconsistent with rule 74 of the NGR.*

(Emphasis added.)

485 However, the ERA allowed ATCO its actual corporate opex costs (as disclosed in ATCO's regulatory financial statements). In doing so, ATCO's actual preparation costs incurred in 2014-2H were, in effect, included in the approved opex forecast for that year, even though the precise amount of the preparation costs was not separately identified within the allowed corporate opex bucket.

486 ATCO therefore does not dispute the AA4 preparation costs allowed for 2014-2H. It also does not dispute the amount of AA5 preparation costs allowed in 2018 and 2019. The dispute is confined only to the decision of the ERA not to allow AA4 preparation costs in 2015.

487 ATCO does not seek inclusion of preparation costs based on the full \$3.4 million proposed in its Amended AA Revision Proposal. It only seeks a lesser pro-rata amount of \$1.4 million, for AA4 preparation costs incurred in 2015 calculated as follows:

(+) Reasonable costs recoverable as estimated by EMCa, for the 18 month period comprising 2014-2H and the whole of 2015: \$2.10 million

(-) Less six months allowed for 2014-2H (estimated from the ERA's allowance) (\$0.70 million)

(=) Reasonable costs as above of \$2.1m not recovered under the Amended Final Decision in 2014-2H (covering the twelve months of 2015) \$1.40 million

488 ATCO contended that the ERA was in error when it did not allow the amount of \$1.4 million as AA4 preparation costs in 2015. ATCO raised several arguments in support of its contention.

Windfall gain

489 ATCO submitted that the ERA's finding that the inclusion of forecast opex in AA4 for AA4 preparation costs would result in a windfall gain for ATCO involved both errors of fact as well as the incorrect exercise of discretion by the ERA. ATCO also claimed that the decision was unreasonable.

490 Broadly, under the method of regulation prescribed by the NGR, specific building blocks (including opex) are forecast at the beginning of the period and tariffs set accordingly. If the service provider is able to spend capex more efficiently than forecast, it entitled to reap the benefits of those efficiencies by retaining the costs as forecast. Conversely, if the service provider is inefficient and spends more than what is forecast, it bears that risk. It is not entitled to recover additional revenue in a regulatory period to make up that shortfall. In this way, the regime provides incentives to encourage efficiency.

491 ATCO said that the regime also does not allow for revenues to be reduced in a regulatory period because the service provider has (or may have) underspent against the approved forecast in the previous period – what it considers is the “windfall gain” argument wrongly applied by the ERA in the Amended Final Decision.

492 The ERA did not dispute ATCO's characterisation of the incentive nature of the regime. However, it disagreed that its approach was contrary to that incentive scheme. Indeed, the ERA considered that its approach enhances it. The approach to which the ERA referred is its decision to infer that the amount allowed in AA3 as opex for AA4 preparation costs was

efficient and otherwise compliant with the NGR. The ERA maintained it could therefore assume that ATCO's efficient AA4 preparation costs were already covered by AA3. The onus was on ATCO to show why any additional amounts claimed for AA4 preparation costs were allowed under r 91, and ATCO failed to provide that justification.

493 In the Tribunal's view, the very incentive scheme which ATCO described explains the ERA's use of the expression 'windfall gain'. Taken in its context in the Amended Final Decision, the ERA was indicating that ATCO needed to demonstrate why it was prudent or efficient under r 91(1) to be compensated for costs in relation to preparing AA4, given that ATCO had already been compensated under AA3 for AA4 preparation costs. If ATCO were allowed to recover extra AA4 preparation costs under AA4 that had not been justified under r 91(1), then ATCO would receive a windfall gain. That is plainly correct for several reasons.

494 First, it is forecast opex that is permitted to be included in the building blocks. However, it will be noted that the opex which ATCO seeks is actual opex attributable to AA4. It is that forecast that creates the very incentive under the regime. That is, if the service provider operates more efficiently than the forecast it can effectively retain those costs. Similarly, if it exceeds the forecast it will be penalised because the revenue requirement is not adjusted to reflect that shortfall.

495 However, if *actual* opex were allowed there is no incentive mechanism in play because the costs will already have been incurred. Even if only some, rather than all of those costs were allowed by the regulator, they would nevertheless be costs that had not been derived under the incentive scheme, with the efficiencies that such incentives drive.

496 It is for that reason that during the hearing, the Tribunal asked both parties whether it is open to the Tribunal to consider actual opex incurred in AA4. At the very least the Tribunal considers that where actual opex is sought, there must be a compelling case for requiring it, consistent with what the NGR provide. The Tribunal takes this no further as the issue was not addressed in the written submissions of either party.

497 Second, the ERA was correct to consider whether the preparation costs permitted in AA3 were adequate because those were costs already allowed for AA4. Consistent with the incentive nature of the scheme, had ATCO overspent against the AA3 forecast for AA4 preparation costs, then it ought to demonstrate why that overspend against forecast was justified under r 91(1), and why, therefore, it ought to be allowed. If it were not able to

demonstrate it, then were it allowed additional AA4 preparation costs, that would indeed be a windfall gain. If ATCO had underspent its forecast, then ATCO would have effectively retained the difference and would have adequate funds for its AA4 preparation costs when they are incurred. The issue is therefore not whether there was a windfall gain but rather whether ATCO had adequately demonstrated the need for AA4 preparation costs in 2015 under r 91(1) of the NGR.

Timing of incurring costs

498 ATCO considered that the ERA was wrong to conclude that a prudent service provider acting efficiently would have incurred the majority of AA4 preparation costs prior to submitting its access arrangement revision proposal for AA4, namely during AA3. It said that conclusion ignores the fact that the access arrangement review process was extended as referred to above. ATCO was originally required to submit its access arrangement revision proposal for AA4 to the ERA by the review submission date specified in the access arrangement for AA3, which was 1 July 2013. That date was extended for the reasons mentioned above.

499 In these circumstances, ATCO argued it is an error of fact, or alternatively is unreasonable, to conclude that the majority of preparation costs would or should have been incurred by ATCO (or a prudent service provider, acting efficiently) during AA3. Broadly, the ERA's response was that a prudent service provider would have incurred the bulk of AA4 preparation costs prior to submitting it – certainly no significant costs ought to have been incurred during 2014-2H or 2015.

500 It is true that the timing of AA4 was extended by reason of the delays already noted above. However, the scheme of regulation under the NGR is well known to both parties. It is known, for instance, that a revision submission date may be extended, that the access arrangement revision process may take longer than what is "typical", and that the time taken to respond to inquiries from the regulator (and the regulator to the service provider) will depend on the number of issues in contention. There is also the possibility (as occurred here) of a change in the NGR during the process. None of that should be particularly surprising, least of all for a service provider that is familiar with the process. That degree of familiarity ought to enable a prudent service provider to forecast preparation costs with some accuracy, building in some degree of flexibility to deal with unforeseen delays as occurred here.

501 Also some of the delays (and hence the costs arising from them) resulted from ATCO taking issue with a number of the conclusions reached by the ERA in the Draft Decision, that

impacted on the building blocks, including those in dispute in these proceedings. Although there is no criticism of ATCO for doing so, ATCO's responses ought to be seen as part of the ordinary and robust exchanges that typically occur between the regulator and a service provider in approving an access arrangement proposal. In that sense it is not so unusual, at least to a prudent service provider.

502 In these circumstances, it was reasonable for the ERA to adopt, at least as a starting point, the preparation costs allowed in AA3 for the AA4 process as representing the bulk of the preparation costs that would be incurred by a prudent service provider, acting efficiently.

503 The issue is whether there was other evidence that justified additional costs beyond those allowed in AA3. ATCO said there was ample other evidence presented to the ERA.

The issue of evidence

504 ATCO's starting point on the issue of evidence was to note that, as the ERA's discretion is limited, the ERA was not entitled to reject ATCO's opex forecast unless it was satisfied that it did not comply with the NGR. Therefore, unless the ERA was satisfied that a prudent service provider, acting efficiently and in accordance with good industry practice, would not actually incur AA4 preparation costs in 2014-2H and 2015, it was required to allow for such costs in the opex forecast.

505 The evidence that ATCO maintained was available to the ERA included an explanation of the additional preparation costs incurred in 2014-H2, and forecast to be incurred in 2015 in its AA Revision Proposal and Amended AA Revision Proposal. One explanation provided by ATCO included the following passage from its AA Revision Proposal:

Corporate support costs have been increasing since 2011. Corporate support costs during the periods prior to acquisition were less than required to maintain the full provision of corporate services ATCO Gas Australia believes are required to support the forecast growth of the network and customer base over the AA4 period. The key drivers for this difference are explained below. Corporate support costs over the AA4 period will increase in 2014 and 2015 and then remain relatively steady.

506 The passage then proceeds to indicate the key drivers for the increases. However, these passages merely provide an explanation for the increases but not why they have arisen or how they satisfy r 91(1).

507 ATCO also provided the following explanation in its Amended AA Revision Proposal:

AGA does not accept \$2.1 million is sufficient to cover the current access arrangement process. Costs were incurred in 2013 and 2014 to prepare and submit

the initial access arrangement revisions proposal. Subsequent costs were incurred to respond to the 160 questions generated by EMCa and the ERA in their review of the proposal. The ERA's Draft Decision and the quantum of the reductions applied by the ERA means AGA is incurring further regulatory related costs to provide the ERA with additional information to demonstrate compliance with the NGR.

508 However, like ATCO's comments in the AA Revision Proposal, these are more in the nature of an explanation but do not go to the core issue of their justification under r 91(1).

509 ATCO also relied on a report prepared for it by KPMG titled 'The corporate support operating costs of the Mid-West and South-West Gas Distribution Systems November 2014', and particularly the following passages:

The expert is of the view that the corporate support costs forecast for the MWSWGDS for AA4 meet the requirements of NGR 91(1) in that:

- *the corporate support services for which ATCO Gas Australia has forecast costs in AA4, are services that meet the criteria of NGR 91(1)...*
- *... while... the... corporate support service expenditure forecast for AA4 exceed benchmarks that provide a measure of efficient sustainable cost by \$3.55m (which is less than 4% of the benchmark costs) over the AA4 period, whether that difference is material for the purposes of assessing whether the expenditure meets the requirements of NGR 91(1), is a matter of regulatory judgement.*

510 More specifically, in relation to preparation costs, the KPMG report states:

Access-regulated businesses commonly use economic, engineering, legal and financial consultants, typically for such things as assisting in the development of regulatory policy and strategy, pricing submissions and regulatory consultation. This work tends to peak at or close to the time of an access arrangement revision. There are also continuing requirements for ad hoc and independent regulatory advice. In the expert's estimation of regulatory consulting costs, he has assumed annual recurring advisory costs, and cyclical advisory costs associated with the access arrangement revision determination:

- *Annual costs – ad hoc regulatory advice on matters such as developments in the regulatory framework, regulatory strategy, tariff submissions and compliance and reporting (approximately \$360,000 per annum has been assumed, representing an average 90 consulting days pa at \$4,000/day).*
- *Cyclical costs (every five years) – focused on the development of the access arrangement revision. This would reasonably be expected to include:*
 - *regulatory strategy and determination project management;*
 - *legal advice on managing and responding to, the determination process;*
 - *tariff development and tariff and revenue modeling;*
 - *demand forecasting;*
 - *capital planning expenditure forecasting and reporting;*
 - *benchmarking;*

- *model review and assistance;*
- *independent critiques and reviews of material;*
- *cost benefit analyses; and*
- *stakeholder engagement.*

Over a five year cycle, a sum of the order of \$3.6m or about 900 consulting days would be reasonable. This equates to an annualised average of \$720,000.

511 Broadly, ATCO relied on these passages to conclude that KPMG found that it is not unusual for economic, engineering, legal and financial work to peak at, or close to the time of an access arrangement revision, and that the amount claimed by ATCO for preparation costs was therefore reasonable.

512 KPMG reached this conclusion by applying a benchmarking approach involving a “top down” or overall benchmarks of observed and reported total activity costs, and a “bottom up” approach using cost modelling. Under the “bottom up” approach, benchmarks of unit costs applicable to each cost component within an activity, such as labour have been applied to an efficient staffing structure for the activity. The nature and sources of all benchmarks are listed in Appendix C of that report. It reveals documents and decisions within and outside Australia and across a number of industries and regulators. KPMG’s report suggests that the benchmarking approach has been applied by a number Australian regulators.

513 The Tribunal observes that the benchmarking data is necessarily broad given the range of sources mentioned. It is also not clear how it would be best applied in demonstrating compliance with r 91(1). Benchmarking can be a useful tool in assessing costs, however it is not the only approach that is available and it is reasonable for the ERA to critique those benchmarks and to rely on other available information in reaching its conclusions. It was open to it to do so. The Tribunal is also not satisfied that ATCO has demonstrated how the information contained in KPMG’s report relates to the timing of the expenditure in issue here.

514 ATCO also pointed to advice from the ERA’s own expert, EMCa:

Legal and regulatory opex is forecast to be 78% higher in 2019 than it was in 2011. This increase is largely driven by an additional eight staff and ‘extra’ AA4 and AA5 preparations costs. We estimate that ATCO has or will spend approximately \$2.1m ‘extra’ [ie. estimated expenditure on consultants and contractors compared to the 2013 base year] on its AA4 proposal through to finalisation. As shown in the figure below, ATCO forecasts spending approximately \$2.4m ‘extra’ on AA preparation and revision for AA5 in 2018-2019. ATCO has not provided justification for the growth in expenditure from 2013 above the estimated ‘AA preparation’ amount. We believe that only \$2.1m expenditure (for AA5 preparation) above the base year is prudent and justified.

515 ATCO asserted that this passage demonstrates that EMCa considered ATCO's claim for an additional \$2.1 million in preparation costs were reasonable. However, that is not what EMCa concluded. EMCa merely concluded that ATCO will spend an extra \$2.1 million. It did not comment on whether that expenditure would meet the test in r 91(1). ATCO's reliance on this should be rejected.

Inconsistency

516 Finally, ATCO asserted that the ERA's decision not to allow any AA4 preparation costs in 2015 is internally inconsistent with its decision that, for the purposes of determining the best forecast for this period as per r 74(2), the best forecasts would be the actual expenditure for July to December 2014 (which actual expenditure included AA4 preparation costs). In addition, the ERA's decision would be illogical given that it well knew that ATCO would incur further expenditure in 2015, and therefore also unreasonable.

517 However, as the Tribunal has discussed, there can be no criticism of the ERA for concluding that a prudent service provider acting efficiently would not have incurred AA4 preparation costs in 2015.

518 Accordingly, ATCO has not succeeded in establishing that the ERA was in error in not allowing \$1.4 million as AA4 preparation costs in 2015.

REFERENCE TARIFF VARIATION MECHANISM

Introduction

519 ATCO seeks a review of the ERA's calculation of the reference tariffs to apply during AA4, and its rejection of a proposed cost pass through event as part of the reference tariff variation mechanism in the access arrangement.

520 ATCO contended that the ERA's determinations of these issues are vitiated by grounds of review in respect of:

- (1) the ERA's use of ATCO's forecast revenue for 2014-2H, rather than its actual revenue, in the calculation of the reference tariffs to apply from 1 October 2015; and
- (2) the ERA's rejection of a cost pass through event proposed by ATCO in respect of certain regulatory costs and licence fees.

Legislative framework

521 Section 2 of the NGL defines “reference tariff” as

a tariff or charge for a reference service—

- (a) *specified in an applicable access arrangement approved or made under a full access arrangement decision; or*
- (b) *determined by applying the formula or methodology contained in an applicable access arrangement approved or made under a full access arrangement decision*

522 Under r 92(1), a full access arrangement must include a “reference tariff variation mechanism” for variation of a reference tariff over the course of an access arrangement period. A reference tariff must not vary during the course of an access arrangement period except as provided by a reference tariff variation mechanism: r 97(5).

523 Under r 97(1), a reference tariff variation mechanism may provide for variation of a reference tariff in the following way:

- (1) in accordance with a schedule of fixed tariffs;
- (2) in accordance with a formula set out in the access arrangement;
- (3) as a result of a cost pass through for a defined event (such as a cost pass through for a particular tax); or
- (4) by the combined operation of two or more of the above.

524 Under r 97(3), in deciding whether a particular reference tariff variation mechanism is appropriate to a particular access arrangement, the ERA must have regard to:

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

525 A reference tariff variation mechanism must give the ERA adequate oversight or powers of approval over variation of the reference tariff: r 97(4).

526 Against this legislative background, the two issues, noted above, that were raised by ATCO
((a) the ERA's use of ATCO's forecast revenue for 2014-2H, rather than its actual revenue;
and (b) the ERA's rejection of a cost pass through event proposed by ATCO) will be
considered in turn.

Reference Tariff Calculation

527 The revision commencement date stated in the access arrangement for AA3 is 1 July 2014.
Although the ERA Access Arrangement took effect from 1 October 2015, the ERA Access
Arrangement applies in fact to AA4, the access arrangement period commencing on 1 July
2014 and ending on 31 December 2019.

528 Therefore, there is a delay between the revision commencement date and the date on which
revisions to the access arrangement actually take effect. In this case, that delay is the period
1 July 2014 to 30 September 2015.

529 Rule 92(3) deals with this delay in the following way:

However, if there is an interval (the interval of delay) between a revision commencement date stated in a full access arrangement and the date on which revisions to the access arrangement actually commence:

- (a) reference tariffs, as in force at the end of the previous access arrangement period, continue without variation for the interval of delay; but*
- (b) the operation of this subrule may be taken into account in fixing reference tariffs for the new access arrangement period.*

530 Rule 92(3) effectively provides that the reference tariffs in force at the end of the previous
access arrangement period apply during the period of delay.

531 However, the more difficult question, and the subject of this dispute, is how future reference
tariffs for the remainder of the new access arrangement period are to be adjusted to take
account of the delay. Rule 92(3) deals with this in very broad terms by permitting the delay
(and its treatment under the NGR) to be "taken into account" in fixing reference tariffs for the
new access arrangement period.

532 Where reference tariffs are rising compared to the previous access arrangement period, the
service provider will "under recover" revenue during the period of the delay by continuing to
charge the previous lower tariffs, unless an appropriate adjustment is made under the new
tariff structure. Conversely, where reference tariffs are falling compared to the previous

period, an adjustment is needed to the new tariffs so that the service provider is not overcompensated by having received the higher tariffs during the period of delay.

533 Such an adjustment occurs in the context that the form of regulation adopted in the ERA Access Arrangement is price regulation; that is, a tariff basket price control under r 97(2)(b). Under price regulation, if at the end of the regulatory year the revenue generated under the prices exceeded, or fell short of the service provider's total revenue for the year, there is nevertheless no adjustment to address the discrepancy.

534 Annexure A of the ERA Access Arrangement specifies the reference tariffs that ATCO is to charge for reference services during AA4. Those tariffs can be varied during the term of AA4 under the reference tariff variation mechanism in Annexure B to the ERA Access Arrangement, including for inflation, the annual update of the return on debt, and as a result of the occurrence of any cost pass through events.

535 The reference tariffs set out in the ERA Access Arrangement are calculated by using the ERA's Public Reference Tariff Model ('PRTM'). Broadly, reference tariffs are established by determining the total revenue to be earned by ATCO for each regulatory year using the building block approach. Then there is a determination of the forecast demand and customer numbers for the access arrangement period. Finally, reference tariffs are calculated (for the various tariff classes, service elements and charging parameters) in such a way that, when applied to the forecast demand and customer numbers, ATCO is forecast to earn the total revenue over the access arrangement period.

536 Completion of the AA4 process was delayed for the reasons already discussed. By the operation of r 92(3)(a), the reference tariffs in force under AA3 continued to apply over the period of delay – 1 July 2014 to 30 September 2015.

537 In the current case, reference tariffs are declining compared to the AA3 period. Therefore, there will need to be a reduction in the reference tariffs over the remainder of the access arrangement period to adjust for the over-recovery by ATCO during the period of delay. The aim is to adjust reference tariffs for the remainder of AA4 to ensure that the total revenue forecast to be earned by ATCO over the entire access arrangement period (based on forecast demands and customer numbers) is equal to the total revenue as approved by the ERA.

538 This is consistent with r 92(2) which provides:

The reference tariff variation mechanism must be designed to equalise (in terms of

present values):

- (a) *forecast revenue from reference services over the access arrangement period; and*
- (b) *the portion of total revenue allocated to reference services for the access arrangement period.*

539 For, at least, part of the interval of delay (namely 2014-2H), ATCO's actual revenue was known prior to the making of the Access Arrangement Decision and had been reported in ATCO's regulatory financial statements provided to the ERA. However, the ERA did not use the actual revenue over this period in adjusting tariffs but instead used an estimate of ATCO's revenue during this period in the PRTM used to calculate the reference tariffs to apply from 1 October 2015.

Areas of dispute

540 ATCO contended that the ERA's decision to use forecast revenue for 2014-2H, rather than actual revenue, in the PRTM involved the incorrect exercise of discretion and was unreasonable.

541 ATCO contended that the ERA made several errors. It is convenient to list them, largely as they were pleaded by ATCO in its Review Application:

- (1) when fixing reference tariffs for AA4, the ERA did not take into account that the tariffs to apply after 1 October 2015 under the Access Arrangement Decision should (as r 92(3) requires) include an amount representing the present value of the difference between actual tariffs recovered in the period 1 January 2014 to 30 September 2015 and the tariffs applicable to that period;
- (2) more specifically, the amount actually recovered by ATCO in the period 1 January 2014 to 30 September 2015 was \$3.824 million less than the forecast revenue for 2014-2H, which has been included in the tariff model as reference tariffs in the ERA Access Arrangement, and unless the adjustment referred to above is made, ATCO will suffer a revenue shortfall over the remainder of AA4;
- (3) the ERA erred in dismissing the use of actual revenue in 2014-2H on the incorrect basis that doing so would be akin to applying a revenue cap;
- (4) the ERA erred in dismissing the use of actual revenue in 2014-2H on the basis that it would require a revision of demand forecasts and reassessment of capex and opex,

despite the ERA adopting ATCO's actual opex and capex for the period as the best estimate of those costs for 2014-2H;

- (5) the ERA's decision is contrary to r 92(2)(a) in that the reference tariff variation mechanism does not equalise forecast revenue from services with the total portion of total revenue allocated to reference services over AA4; and
- (6) the ERA's decision does not satisfy the RRP, as it does not allow ATCO to recover at least its efficient costs of providing reference services over AA4 (and, in particular, in 2014-2H).

542 ATCO's submissions followed these identified areas of error fairly closely, and it is therefore convenient to consider each broadly in turn, noting however that there is some overlap between them.

543 The revenue that was forecast over 2014-2H was higher than the revenue actually earned over that period, such that ATCO is treated as having earned more revenue than it actually did. The consequence is that the downward adjustment to be made to ATCO's aggregate total revenue over AA4 is greater, and its overall aggregate total revenue allowed by the ERA is less, than would otherwise be the case.

544 In its Amended Final Decision, the ERA explained its reasons for using forecast rather than actual revenue as follows:

The Authority notes ATCO's concerns regarding the delay to the commencement of the new tariffs and the costs it has incurred during the 2014 period. However, the Authority has determined haulage reference tariffs based on its assessment of ATCO's forecast operating expenditure, in accordance with the requirements of rule 91(1) of the NGR based on its assessment of what would be incurred by a prudent service provider acting efficiently. The Authority has also determined haulage reference tariffs based on its assessment of ATCO's forecast conforming capital expenditure, in accordance with the requirements of rule 79(1) for the purposes of rule 78 of the NGR.

*The Authority notes that it has calculated haulage reference tariffs based on its assessment of ATCO's proposed demand forecast. The Authority considers that given its required changes in its Draft Decision which would result in all tariffs to be charged based on a price cap (or variant) form of price control and not a revenue cap form of price control, forecast demand should be used to determine tariff revenue prior to the access arrangement start date (1 July 2014 to 1 October 2015). **The use of actual revenue would be akin to a revenue cap which is not the form of price control approved.***

The Authority also used forecast demand during the period 1 July 2014 to 1 October 2015 to determine prudent and efficient expenditure for the fourth access arrangement period. The demand forecast during this period also has flow-on

impacts to the demand forecasts for the remainder of the fourth access arrangement period. If the Authority had used actual tariff revenue during the period 1 July 2014 to 1 October 2015 as requested by ATCO, to determine haulage tariffs, then for consistency, the Authority would have revised the demand forecast and reassessed efficient capital and operating expenditure. The Authority provided its explanation for using actual operating and capital expenditure information to determine efficient and prudent expenditure for the six month period to 31 December 2014.

(Emphasis added.)

545 ATCO submitted that it is clear from the bolded passages above that the ERA misunderstood ATCO's submission. ATCO had not proposed to use actual revenue for the entire period of delay (1 July 2014 to 30 September 2015 as quoted) but only for the period 2014-2H in respect of which ATCO had already provided its regulatory financial statements.

546 The ERA relied on several letters and meetings between the parties to suggest it had not misunderstood the submission put by ATCO or that the relevant period was in fact 2014-2H. The Tribunal does not consider it to be productive to discuss that correspondence or those meetings. Whatever may have transpired between the parties, it was well understood by both parties (as is apparent from the passages from the Amended Final Decision) that ATCO wanted the ERA to use its actual revenue for the purpose of calculating the reference tariffs.

Consideration

547 ATCO considered that neither "demand" nor "revenue" are concepts like "opex" or "capex", that are subject to a test of prudence or efficiency. Therefore, there was no reason why the ERA ought to have used a forecast of demand and revenue when actuals are known for 2014-2H, particularly if this represents the best forecast or estimate possible in the circumstances under r 74(2). The purpose of using actual demand and revenue figures for 2014-2H is not to set a revenue cap but rather to set an accurate price cap for the remainder of the access arrangement period.

548 ATCO was correct that there is no express provision in the NGR that imports a prudence or efficiency test for revenue. However, that does not mean that the concept of efficiency is not embodied in the determination of revenue. Under the building block approach, both capex and opex is forecast and is allowed into the building blocks only if each satisfy a prudence and efficiency test (see r 79, r 91 of the NGR). Those components (together with other items) ultimately determine the total revenue that the service provider earns.

549 That revenue and the reference tariffs are intended to mimic what a prudent and efficient service provider will earn over the access arrangement period. That concept of efficiency does not end with the setting of total revenue and reference tariffs. It carries through the life of the access arrangement in this way. If the service provider earns more revenue than is forecast from reference tariffs (because it has been efficient) it can retain that amount because there is no adjustment. Conversely, it is penalised if it operates inefficiently.

550 Allowing actual revenue for 2014-2H is inconsistent with the incentive nature of the scheme. Using actual revenue provides no insight into whether it was earned by the service provider operating efficiently or conversely inefficiently.

551 It will be noted from the bolded passage in the ERA's Amended Final Decision extracted above, that as the ERA considered that had it used actual tariff revenue to determine haulage tariffs, then for consistency it would have needed to revise the demand forecast and reassess efficient capital and operating expenditure. ATCO considered this approach to be illogical because demand forecasts over this period are only necessary to forecast expected revenue and align it to total revenue for the regulatory year. However, when actual revenue is already known, the demand forecasts become inconsequential.

552 As indicated previously, using actual revenue for 2014-2H would undermine the incentive nature of the scheme.

553 ATCO also argued that the ERA's arguments against using actuals are inconsistent with its own use of actual opex and capex incurred in 2014-2H as the best forecast of prudent opex and conforming capex for that period. There is no reason why it is reasonable and appropriate to use actual opex and capex costs in the PRTM where available, but to use forecasts of demand and revenue for the same period.

554 The ERA's response was that the use of actual 2014-2H figures for capex and opex was part of forecasting and estimating the total revenue under the building block approach. The ERA was permitted to infer compliance on any basis the ERA considered appropriate, within the terms of r 71(1). In accepting the actual opex and capex for 2014-2H as the best forecast, the ERA also accepted that the expenditure was efficient and complied with the NGR.

555 In the Tribunal's view, capex and opex are only components of the building blocks, not their totality. That is fundamentally different to actual revenue which is the "end product" of the application of all the building blocks.

556 The Tribunal concludes that the ERA did not make the errors contended by ATCO.

Pass through of licence fees

557 In the AA Revision Proposal, ATCO proposed the inclusion of a number of defined cost pass through events in cl 3.1 of Annexure B. Relevantly cl 3.1 (iii) provides:

3.1 Cost Pass Through Events

For the purpose of this clause 3, each of the following is a “Cost Pass Through Event”:

...

(iii) ATCO Gas Australia incurs:

- (A) Conforming Capital Expenditure or Conforming Operating Expenditure as a result of, or in connection with, a Change in Law, Tax Change or Regulatory Change; or*
- (B) Regulatory Costs, to the extent that such costs can be demonstrated to have been reasonably excluded from the forecast Conforming Capital Expenditure or forecast Conforming Operating Expenditure.*

558 Although not defined in the AA Revision Proposal, the following definition of “Regulatory Costs” appeared in the proposed Access Arrangement Information:

...direct costs as a result of:

- (a) a Regulatory Obligation or Requirement (as defined in section 6 of the National Gas Access Law) that are demonstrated to have reasonably been excluded from forecast Conforming Capital Expenditure or forecast Conforming Operating Expenditure for the Access Arrangement Period;*
- (b) ATCO Gas Australia’s compliance with the National Gas Access (Western Australia) Legislation, its Distribution Licence, the Energy Coordination Act 1994 (WA), the Gas Standards Act 1972 (WA), the Energy Operators (Powers) Act 1979 (WA), the Environmental Protection Act 1986 (WA), and its compliance with all other applicable Laws and with the requirements of any government department, agency or authority operating in accordance with those Laws to the extent such cost can be demonstrated to have been reasonably excluded from the forecast Conforming Capital Expenditure or forecast Conforming Operating Expenditure.*

559 In its Draft Decision, the ERA rejected ATCO’s proposed cost pass through event:

ATCO has amended its cost pass-through events to include direct and indirect regulatory costs, to the extent that such costs can be demonstrated to have been reasonably excluded from the forecast conforming capital expenditure or forecast operating expenditure. In the current access arrangement, regulatory costs are part of the tariff variation formula. Actual regulatory costs are currently assessed against forecasts, and any over or under spend is reflected in the tariff. ATCO’s proposal now only includes any over spend as a result of unforeseen costs related to existing regulatory obligations and increases in license fees. The Authority notes the following in relation to ATCO’s proposed amendment:

- *ATCO’s proposed amendment is asymmetric, in that it only addresses higher*

than forecast regulatory costs. Unforeseen benefits may reduce ATCO's regulatory costs.

- The Authority will find it difficult to reconcile regulatory cost pass throughs relating to ATCO's proposed amendment with corresponding regulatory cost forecasts in operating expenditure and capital expenditure.
- ATCO's proposed amendment does not provide the right incentives for ATCO to focus on cost efficiencies.

Therefore, the Authority rejects ATCO's proposal to include increased regulatory costs as a cost pass-through.

560 In response to the Draft Decision, in its Amended AA Revision Proposal, ATCO proposed a revised cost pass through event in cl 3.1(e) of Annexure B in the following terms:

3.1 Cost Pass Through Events

For the purpose of this clause 3, each of the following is a "Cost Pass Through Event":

- ...
- (e) ATCO Gas Australia incurs any costs in relation to the following regulatory and compliance requirements or instruments:

Agency	Fee Description
1 Department of Commerce	EnergySafety Levy
2 WA Energy Disputes Arbitrator	Standing Charges for the GDL8- Quarterly Fee
3 Energy Industry Ombudsman	Levy – Annual Fee
4 ERA	Standard Charges GDL8 (First time charged starting April 2014) – Quarterly Fee
5 ERA	Specific Charges
6 ERA	Gas Licence Fee GDL8 – Annual Fee
7 REMCo	Annual Service Fee
8 REMCo	Participant Training
9 Down to Earth Training & Assessing	WorkSafe licence Fee
10 Department Minerals and Petroleum	Pipeline Safety Case GD Pl 0150 Levy- Quarterly Fee
11 Department Minerals and Petroleum	Dangerous Goods Site Licence – Annual Fee
12 Department Minerals and Petroleum	Pipeline Licence PL 83 (Chargeable Length: 8kms) – Annual Fee
13 Energy Safety Gas permits	Gas fitters must retain a current permit
14 Department of Land	Access Rights Charges: S14/Pipeline: 2010 to 2013/2014
15 Department of Land	Access Rights Charges: S14/Pipeline: 2014/2015- Annual Fee
16 Landgate	Land Enquiry Fees, Access Licence

561 Under this revised cost pass through mechanism, ATCO sought to recover costs in relation to the 16 regulatory and compliance requirements listed, including licence fees imposed by regulators or under legislation (**'licence fees'**).

562 One of the licence fees identified by ATCO in item 5 of cl 3.1(e) of the cost pass through mechanism are "Specific Charges" payable to the ERA. These charges are payable by ATCO to the ERA under reg 6 of the *Economic Regulation Authority (National Gas Access Funding) Regulations 2009* (WA) (**'Funding Regulations'**).

563 Regulation 6 of the Funding Regulations relevantly provides:

- (1) *The Authority may give written notice to a person described in Schedule 2 requiring the person to pay a charge in connection with the performance of the corresponding functions described in that Schedule or the doing of anything that was necessary or convenient to be done for or in connection with the performance of those functions.*
- (2) *A notice under subregulation (1) must specify —*
 - (a) *the amount of the specific charge; and*
 - (b) *the day on which the notice was issued.*
- (3) *The amount of a specific charge is to be an amount equivalent to costs described in subregulation (4) that —*
 - (a) *have been incurred by the Authority; and*
 - (b) *are directly attributable to the performance of the relevant function or to the doing of anything that was necessary or convenient to be done for or in connection with the performance of the relevant function.*
- (4) *For the purposes of subregulation (3), the costs are —*
 - (a) *costs of consultants or contractors engaged by the Authority including accommodation costs, travel costs and equipment costs; and*
 - (b) *photocopying, mailing, publishing and advertising costs; and*
 - (c) *costs associated with public consultation conducted under the national gas scheme laws.*

564 Under reg 6(1), the ERA may by written notice require a person described in Sch 2 of the Funding Regulations to pay a charge in connection with the performance of the corresponding functions described in that Schedule.

565 ATCO is a person captured by item 11 of Sch 2 and to which reg 6(1) applies. The ERA may therefore give ATCO a written notice to pay a relevant charge in connection with the performance of the ERA's functions under the NGR (**'Specific Charge'**). This is the Specific Charge ATCO proposed to capture under item 5 of cl 3.1(e) of its pass through mechanism.

566 Under reg 6(6) of the Funding Regulations, a person given a notice under reg 6(1) must pay the Specific Charge to the ERA within 30 days of the date of issue of the notice. The Specific Charge must be attributable to the costs listed in reg 6(4) that are incurred by the ERA and attributable to the performance of its functions.

567 In its Amended Final Decision, the ERA rejected ATCO's proposed revised cost pass through event:

The Authority does not approve the changes made by ATCO to clause 3.1 of Annexure B, and maintains its decision to reject ATCO's proposal to include increased regulatory costs as a cost pass through. The Authority considers that ATCO has not addressed its concerns in relation to maintaining regulatory cost changes as cost pass throughs. The Authority notes that ATCO does not report on its regulatory costs separately, which would create an oversight issue for the Authority in case such cost increases are passed through.

ATCO has included additional detail in the cost pass throughs to cover licence fee changes from those forecast as cost pass throughs. The Authority considers that ATCO should be responsible to ensure reasonable licence fee forecasts. Moreover, the Authority reviews these forecasts to ensure that they are prudent and efficient. The Authority considers that any change to licence fees as a result of a change in Law can be considered as a cost pass-through in accordance with the reference tariff variation mechanism.

568 The reference tariff variation mechanism as finally approved by the ERA relevantly provides for the following cost pass through event:

2.1 Cost Pass Through Events

For the purpose of this clause 2, each of the following is a "Cost Pass Through Event":

...

(c) *ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of a Change in Law or Tax Change*

Areas of dispute

569 Broadly, ATCO contended that the ERA's rejection of ATCO's proposed cost pass through event involved errors of fact, the incorrect exercise of discretion and was unreasonable.

570 ATCO advanced a number of arguments in support of its submission. Those arguments broadly responded to the ERA's reasons for rejecting ATCO's cost pass through mechanism in its Amended Final Decision. It is therefore convenient to consider each argument of ATCO's attack on the ERA's reasons.

571 ATCO's overarching criticism stemmed from the ERA's view that ATCO should be responsible for ensuring reasonable licence fee forecasts. This suggested that the ERA

considered that it is reasonably possible for a service provider to ensure reasonable licence fee forecasts, in circumstances where the regulator's costs are out of the control of the service provider. As licence fees are fees payable to regulators or under legislation or legislative instruments, ATCO has no control over the amount of the licence fees charged or the rates or criteria used to calculate them, and no discretion whether or not to pay them. Nor does ATCO have any advance notice of any changes to be made to those licences.

572 This is said to be clearly illustrated by the example of Specific Charges. ATCO said it has no control over, or ability to predict, what consultants the ERA may engage in the access arrangement revision process, the issues in respect of which the ERA may seek consultant input or the cost of those engagements. ATCO indicated that, as at the date of the Access Arrangement Decision, the ERA had (during 2015 alone) already invoiced ATCO for over \$85,000 more than the amount included for such charges in the approved opex forecast for that year.

573 The ERA's response is fivefold. First, just as for other regulatory costs, if a licence fee cost arises from a change in law then provision exists in the tariff variation mechanism to allow for pass through of such costs.

574 Second, ATCO has not demonstrated that it is in any worse a position as regards forecasting or controlling its licence fee costs than for any other regulatory costs it incurs.

575 Third, there is no logical basis for ATCO to single out licence fees for special treatment as a cost pass through event as compared with any other regulatory costs.

576 Fourth, ATCO does have insight into and control over the costs it is invoiced by the ERA. ATCO submitted the AA Revision Proposal and was aware of the relative number and complexity of the proposed revisions, which will indicate the level of costs likely to be incurred by the ERA during the revision process.

577 Finally, if a service provider is acting prudently and efficiently as a licence holder, the margin between its forecast and actual costs for licence fees should be relatively small and would likely be outweighed by the amount of administrative costs involved in claiming a pass through. It is relevant in deciding whether to allow a pass through mechanism to consider whether the costs of administering the variation mechanism are disproportionately high compared to the possible passed through costs themselves.

578 The ERA believed ATCO could mitigate its licence fee costs by complying with its licence conditions, and being more efficient in its dealings with the ERA. Reasonable restrictions on the availability and operation of any pass through mechanism are necessary to guard against service providers passing through to consumers the cost of their own lack of prudence or efficiency. Relevantly, for example, users should not be charged higher tariffs because of a deficient proposal that caused the ERA's assessment to take longer and require a greater level of input from technical advisors.

579 ATCO's overarching criticism is supported by a number of specific planks. In order to deal with those additional planks, it will invariably be necessary for the Tribunal to address ATCO's overarching criticism and the ERA's response. It is therefore convenient to deal with the totality of ATCO's criticisms by proceeding to consider each plank.

580 First, ATCO submitted that one of the reasons for the ERA's rejection of its proposed mechanism was that it does not provide the right incentives to focus on cost efficiencies. This finding was made by the ERA in the Draft Decision. It did not appear in these express terms in the Amended Final Decision, though ATCO said it follows from the ERA's comments in the Amended Final Decision that ATCO had "not addressed its concerns" – a reference to not having addressed the incentive issue from the Draft Decision.

581 Due to the nature of the licence fees (imposed by regulators or under legislation or legislative instruments), ATCO had no power or control over the amount it pays. Therefore, ATCO considered it irrelevant to speak of incentives in relation to this category of costs.

582 The ERA considered however that ATCO has influence over some of its licence fees, such as the ERA charges under the Funding Regulations. ATCO has some knowledge and control over how much the ERA is likely to spend on the access arrangement revision process, and consequently over the amount ATCO is likely to pay for these licence fees. In particular, the cost to the ERA of the access arrangement revision process is affected by the scale and complexity of ATCO's proposed access arrangement, and how efficient ATCO is in its dealings with the ERA, including in providing accurate information thus limiting the need for subsequent information gathering. If ATCO were permitted to simply pass through its licence fee costs, it would not have an incentive to be efficient in its dealings with the ERA.

583 It is important to appreciate the context in which a pass through mechanism is provided. A forecast of capex and opex is made and ultimately feeds into the building blocks. Those

capex and opex forecasts will extend to regulatory and other requirements, like the current dispute over corporate support opex. Leaving aside for the moment the issue of whether licence fees are truly out of the control of a service provider (as ATCO contended), there is nothing unique about licence fees (or other fees or charges for that matter) that preclude them from being assessed under the prudence and efficiency test. They ought to be assessed under those tests to ensure there is an incentive for a service provider to act prudently and efficiently.

584 A cost pass through mechanism should therefore only be reserved for those events that are truly beyond contemplation. The reason for that is because a cost pass through mechanism will allow costs to flow through to reference tariffs during an access arrangement period, without those costs being subject to the same prudence and efficiency tests at the time an access arrangement revision is considered – unless the mechanism itself imports a prudence or efficiency test.

585 There is then the issue of whether licence fees occupy any different place because they are not within the control of the service provider. It should be noted that ATCO did not seek to distinguish, in any significant way, between the different types of licence fees, except for its particular emphasis on Specific Charges. Nevertheless, it is useful to distinguish between two ‘classes’ of licence fees – Specific Charges and all other licence fees (**‘Other Fees’**) in considering ATCO’s criticisms.

586 The Tribunal has already noted the basis on which the Specific Charges are levied. It is true that these Specific Charges are levied by the ERA and in that sense, ATCO has little choice but to pay them, as levied.

587 However, that does not mean that ATCO’s actions have no impact on the amount of the Specific Charges or what they encompass. First, there are limitations on what the ERA may levy under the Funding Regulation noted previously in these reasons. The ERA may only levy Specific Charges where they have been incurred by the ERA and are directly attributable to the performance of the relevant function, or to the doing of anything that was necessary or convenient to be done for, or in connection with, the performance of the relevant function: see reg 6(3) Funding Regulation. Also the only costs that the ERA may levy are the costs of consultants or contractors engaged by the ERA, administrative costs (such as photocopying) and costs associated with public consultation: see reg 6(4) Funding Regulations. In this

sense, although the quantum may vary between access arrangements, the criteria for levying the Specific Charges is well known.

588 In addition, the process for the conduct of an access arrangement revision is (or ought to be) well known to both the regulator and service provider. That process is well documented in the NGR. Necessarily, it involves a degree of “back and forth” between the service provider and regulator – both in a formal way through the submission of a revision proposal and the preparation of decisions by the regulator – and informally through numerous exchanges between the service provider and regulator as, for example, occurred here in relation to the cost pass through mechanism.

589 It ought to be known to a prudent service provider acting efficiently that it has some control over the amount of a Specific Charge by the nature and extent of the issues it seeks to agitate with the regulator. The more issues that it argues potentially translates into greater expense for the regulator in public consultation and in engaging experts, among other things and hence the higher the Specific Charges. As with litigation, a service provider should not be rewarded for agitating every point – even where they have little prospect of success. In the context of the NGR, customers should not pay for these inefficiencies. ATCO should be subject to the discipline of acting prudently and efficiently by having to forecast these costs with some precision, without the need for a cost pass through. It should not struggle to do so because it is aware of the process under the NGR, has previous experience with other revision proposals and as explained, has a degree of control over the Specific Charges through its own actions.

590 The relevant Other Fees are those that ATCO has sought to capture in its revised pass through mechanism noted previously in these reasons. Those Other Fees include matters such as annual charges and fees levied under legislation. The Tribunal was not provided with any substantial background to these Other Fees and therefore cannot comment on how they are comprised, levied or their quantum. In the absence of being taken to each of the Other Fees, the Tribunal is not prepared to conclude that there is anything otherwise particularly unique about them that warrants a pass through. In any case, the Tribunal would expect ATCO to be in a position to provide some accurate forecasts in relation to them for much the same reasons as it ought to be able to address Specific Charges as the Tribunal has indicated.

591 Secondly, ATCO also believed that the Access Arrangement Decision is likely to result in
ATCO not recovering the efficient licence fee costs it incurs in providing reference services,
and therefore offends one of the RRP, as set out in s 24(2) of the NGL.

592 Due to the nature of the licence fees, ATCO believed there was no issue that the costs are
efficient or would be incurred by a prudent service provider under r 91(1). That is, licence
fees – being costs that must be paid by a service provider in the amount specified by the
relevant regulator or legislation – are in a different category to most other opex costs, where a
service provider has discretion as to which costs it incurs and how and when they are
incurred. There is no scope for ATCO to achieve cost efficiencies in respect of licence fees,
and therefore no reason to incentivise ATCO to incur those costs efficiently. ATCO
submitted that this is an ideal example of a circumstance in which the ERA should approve a
cost pass through event, and one that satisfies the requirements of r 97(3).

593 The ERA maintained that it is not necessarily true that all licence fees incurred by ATCO will
have been incurred efficiently. They may have been incurred or increased because ATCO
was not acting as a benchmark efficient service provider. For example, if ATCO is not
efficient in its dealings with the ERA, then the ERA may incur extra costs in dealing with
ATCO's inefficiencies, which will in turn be passed on to ATCO as licence fees.
Consequently, contrary to ATCO's assertions, there is scope for ATCO to achieve cost
efficiencies in respect of licence fees, and some reason to incentivise ATCO to incur those
costs efficiently.

594 The Tribunal has effectively addressed this issue in its consideration above. For those
reasons, the Tribunal rejects ATCO's assertion that it is deprived of the ability to recover
efficient licence fee costs it incurs in providing reference services.

595 Thirdly, the ERA was concerned that ATCO's proposed amendment is asymmetric, in that it
only addressed higher than forecast regulatory costs; unforeseen benefits may reduce
ATCO's regulatory costs.

596 ATCO argued that the criticism misconceives the nature and purpose of cost pass through
provisions. These are, of their nature, asymmetric. The proposed pass through event would
only apply if there is under-forecasting of regulatory compliance costs. The regulatory
environment faced by ATCO has shown no sign of decreasing in complexity – the opposite is
the case, and is likely to remain so. ATCO maintained it is apparent from the Amended AA

Revision Proposal that it intended to propose a cost pass through event which was symmetric (ie which applied both to positive and negative changes in licence fees over the period), and ATCO had no objection to the cost pass through event operating symmetrically.

597 The ERA disagreed that it misconceived the nature or purpose of cost pass through provisions. Under the AA3 access arrangement, which was revised in the ERA Access Arrangement, actual regulatory costs were and are assessed against forecasts, and any over-spend or under-spend was and is reflected in the tariff. However, ATCO's proposed cost pass through event would include only any over-spend as a result of unforeseen costs related to existing regulatory obligations and increases in licence fees. Further, the ERA maintained that ATCO's assertion that regulatory compliance costs are unlikely to be over-forecast is without foundation. As evidenced by the ERA's own gas distribution licence fee, licence fees can decrease, not just increase. An asymmetrical cost pass through mechanism that allowed only for pass through of under-forecast amounts could give the service provider a succession of windfalls and would be contrary to the NGO.

598 The Tribunal sees no reason why some licence fees might not increase or decrease or why some licence fees may not be abolished altogether or new ones added. A cost pass through should also be able to cater for circumstances where there is a decrease in fees. In any case, ATCO, like any other service provider, is not prejudiced by this approach. It has the opportunity through its forecasts to address licence fee costs, and it is well equipped to do so for reasons already discussed. In circumstances, for example, where a new type of licence fee is introduced by legislation, this will undoubtedly trigger the "Change in Law" component of the pass through and entitle recovery on that basis, as discussed further below.

599 Fourthly, the ERA also rejected ATCO's pass through because it considered that any change to licence fees as a result of a change in law could be considered as a cost pass through in accordance with the reference tariff variation mechanism in cl 2.1 of Annexure B to the ERA Access Arrangement. It will be noted that that mechanism provides for a pass through event if "ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of a Change in Law or Tax Change."

600 The expression "Change in Law" and "Tax Change" are defined in the Dictionary in cl 12 of the ERA Access Arrangement. The expression "Change in Law" is defined as follows:

- (a) *the introduction of a new Law;*
- (b) *an amendment to, or repeal of, an existing Law; or*

- (c) *a new or changed interpretation of an existing Law resulting from a decision of:*
 - (i) *a court;*
 - (ii) *a tribunal;*
 - (iii) *an arbitrator;*
 - (iv) *a Government or regulatory department, body, instrumentality, minister, commissioner, officer, agency or other authority; or*
 - (v) *a person or body which is the successor to the administrative responsibilities of any person or body described in paragraph (iv) of this definition.*

601 The expression “Law” is defined to mean:

...all:

- (a) *written and unwritten laws (including, without limitation, laws set out in statutes and subordinate legislation, the common law and equity) of the Commonwealth, of Western Australia, of local government authorities, and of any other State, Territory or foreign country having jurisdiction over the subject matter of a Service Agreement, or the Access Arrangement; and*
- (b) *judgments, determinations, decisions, rulings, directions, notices, regulations, by-laws, statutory instruments, Codes of Practice, Australian Standards or orders given or made under any of those laws or by any government agency or authority.*

602 ATCO argued that the “Change in Law” cost pass through event in the ERA Access Arrangement will not necessarily apply to all changes in licence fees. In particular, it will not apply to any licence fee changes that do not result from a change in legislation or from a change in the way in which (or the rate at which) a fee is calculated. For example, the Specific Charges vary from time to time, and cannot reasonably be forecast by ATCO, not because of any change in the underlying Funding Regulations, or because of any change in the way they are calculated by the ERA, but merely due to the nature of the fee.

603 The ERA expects that any significant changes to licensing fees, for example the introduction of new charges, would be likely to fall within the definition of a “Change in Law”. Also, any new licence fee or material change to the calculation of the fee would likely require an amendment to the Funding Regulations. In relation to ATCO’s example of Specific Charges, the ERA submitted that ATCO should be responsible to ensure reasonable licence fee forecasts, consistent with the ERA’s statement to this effect in its Amended Final Decision.

604 In the Tribunal’s observation, the ERA and ATCO are at cross purposes in their submissions on this issue.

605 What ATCO is suggesting is that an increase, for example, in the quantum of the Specific Charge levied by the ERA (other than from a law change – such as a change to the Funding

Regulations) will not constitute a “Change in Law” and will therefore not entitle ATCO to recover that amount under the pass through as drafted by the ERA. That is plainly correct because the Specific Charge will still be one levied under the existing provisions of the Funding Regulations, albeit that the quantum levied may have increased. That is, it is clearly not the product of the introduction of a new Law, an amendment to, or repeal of, an existing Law or a new or changed interpretation of a Law, within the definition “Change in Law” as the ERA contended.

606 What the ERA was suggesting is that the introduction of a new licence fee will require a law change. Similarly, a new way of determining the Specific Charge will undoubtedly require an amendment to the Funding Regulations. Such an amendment would trigger the “Change in Law” definition in the pass through.

607 ATCO and the ERA were therefore both correct in the way they have presented their positions. However the real point of difference is what is implicit in the ERA’s position. It is that the cost pass through mechanism should only be reserved for circumstances where there is a true Change in Law (in the manner they have explained) and not, as ATCO contended, where there is an increase in quantum of a fee, that does not result from a law change. This seems to follow from the ERA’s assertion that licence fees do not stand in any different position to other regulatory forecasts, and do not require a pass through except in the case of a true Change in Law. The Tribunal agrees with this position for substantially the same reasons indicated in its treatment of the case of Specific Charges.

608 Fifthly, the ERA rejected ATCO’s cost pass through because “ATCO does not report on its regulatory costs separately, which would create an oversight issue for the [ERA] in case such cost increases are passed through”.

609 ATCO considered this an unreasonable basis to reject its pass through for several reasons. First, the proposed cost pass through event identified comprehensively and with specificity the licence fees to which it was to apply. Secondly, ATCO had already provided a detailed breakdown of its licence fee opex forecast by individual licence fees, and it would have been straightforward for the ERA to compare actual licence fees paid by ATCO during the period against the forecast, and calculate any deviation from it. Finally, the proposed access arrangement (and the ERA Access Arrangement) includes a process for ATCO to provide the ERA with a variation report substantiating the basis for the cost pass through before any variation to reference tariffs would take effect.

610 The ERA's response is little more than a general denial that it acted unreasonably in rejecting ATCO's proposed cost pass through event on this basis. In the Tribunal's view, the ERA's response is not compelling. ATCO has submitted a number of practical ways that the ERA can manage the oversight issue including through a detailed breakdown of these costs and through the variation report contemplated by ATCO.

611 Finally, in rejecting ATCO's pass through mechanism the ERA said:

The Authority considers that ATCO should be responsible to ensure reasonable licence fee forecasts. Moreover, the Authority reviews these forecasts to ensure that they are prudent and efficient.

612 However, ATCO argued that the licence fee opex forecasts approved by the ERA in the Access Arrangement Decision were not reasonable, prudent and efficient licence fee forecasts as they did not include any forecast changes (over 2014 levels) to licence fees in the remaining years of AA4.

613 ATCO maintained that it indicated (repeatedly) in its Amended AA Revision Proposal that its proposed licence fee opex forecast was based on the actual costs expected to be incurred by ATCO in 2014, only on the basis that any deviation from those amounts would be recovered through the proposed cost pass through event. That is, they did not represent a forecast of the likely licence fees (including any possible increases or reductions in licence fees) payable over AA4, but merely adopted 2014 costs for all future years of the access arrangement period on the assumption that any deviations would be captured by the cost pass through mechanism.

614 The following passages from ATCO's Amended AA Revision Proposal allude to it putting the ERA "on notice" of this:

With regard to licence fees, in section 6.2.3 AGA provides a reforecast based on actual costs and costs expected to be incurred in 2014. AGA intends to recover any deviation from this forecast through the cost pass through mechanism.

...

AGA has implemented the ERA's amendment with a minor modification. AGA has updated the forecast to reflect the expected licence fees in 2014 and will then adopt this amount in each year of AA4 unless it is advised of a change by one of the licence fee vendors. The list of vendors and reforecast of licence fees for AA4 is shown in Table 6-23 below.

...

AGA notes that variations between licence fees actually paid and forecast will be subject to a cost pass through application. Therefore, it is important to provide a specific and accurate forecast for these amounts.

615 Further, in an e-mail from ATCO to the ERA dated 19 August 2015, ATCO raised concerns regarding the removal of licence fees from the cost pass through clause, especially the determination of Specific Charges. The e-mail concluded by requesting that the ERA reconsider how changes in licence fees arising for reasons other than a change in law will be dealt with in the Access Arrangement “to the extent that [ATCO] is not able to reasonably forecast costs which are efficient, prudently incurred and (in this particular case, entirely) outside of its control.”

616 However that e-mail was sent after the publication by the ERA of its Final Decision but before the publication of its Amended Final Decision.

617 ATCO argued that the cost pass through event should have been approved, or a licence fee opex forecast developed that reflected a true forecast of licence fees (including forecast changes as compared to 2014 levels) over the course of AA4.

618 The ERA has not disputed in its submissions (at least not expressly) the communications on 2014 opex claimed by ATCO. Rather, the ERA’s response is that even if those licence fee opex forecasts did not include any forecast changes (over 2014 levels) in the remaining years of AA4, that does not necessarily make those forecasts not reasonable, prudent and efficient. The ERA maintained that ATCO was in a better position than the ERA to forecast the fees. In addition, it was a reasonable assumption for the ERA to make that what ATCO forecasted at the 2014 level was done accurately and properly so that the forecasted amounts were prudent and efficient, given ATCO’s obligation under r 74(2)(b) to submit forecasts representing the best forecast or estimate possible in the circumstances.

619 Despite ATCO’s Amended AA Revision Proposal, it should have been obvious to it from the ERA’s Draft Decision, and at the very least from the ERA’s Final Decision, that the ERA had rejected the pass through in the form ATCO had proposed. It was unreasonable for ATCO to continue to assert a position (including as late as its e-mail of 19 August 2015) when it well knew it had been rejected and the ERA had proposed an alternative mechanism. Additionally, there was no change in that mechanism between the Final Decision and Amended Final Decision. At some point the ERA needed to bring the issue to a conclusion, which it did in its Final Decision and ultimately in its Amended Final Decision. It was not unreasonable at that stage for the ERA to proceed on the basis that ATCO’s forecasts of licence fees were properly formed. In any case, it is also not clear to the Tribunal that the

costs at 2014 levels which ATCO had submitted were not in themselves prudent and efficient.

620 The Tribunal is satisfied that despite the relatively minor oversight argument, the ERA's rejection of ATCO's proposed cost pass through event did not involve errors of fact, the incorrect exercise of discretion or was unreasonable.

RETURN ON EQUITY

Introduction

621 ATCO seeks review of the ERA's rejection of the Fama French three factor model ('**FFM**') to calculate the return on equity.

622 Between the date of ATCO's Review Application and the Tribunal's hearing of matters related to the rate of return, a separately constituted Tribunal in *PIAC and Ausgrid* delivered its decision on related matters in the case of NSW electricity distributors. Consequently, ATCO sought leave, which was granted, to resubmit its Review Application which involved a change in the scope of the challenge of matters for review. This reflected the fact that *PIAC and Ausgrid* addressed, *inter alia*, similar matters related to the regulator's reliance or non-reliance upon estimation materials in rate of return determination, but did not explicitly consider the case of the FFM in this regard.

623 Consequently, as ATCO stated:

ATCO's challenge is now limited to the ERA's rejection of the FFM as being "irrelevant" and "not fit for purpose", findings that led to the ERA not giving any weight to the "value"/HML factor or the "size"/SMB factor included in the FFM.

Legislative framework

624 The requirements for determining the return on equity are set out in Pt 9 Div 5 of the NGR. This division deals with the allowed rate of return objective ('**ARORO**'), which encompasses both return on equity and return on debt for each regulatory year of an access arrangement period.

625 The ARORO is described in r 87(3) of the NGR as follows:

The allowed rate of return objective is that the rate of return for a service provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the service provider in respect of the provision of reference services (the allowed rate of return objective).

626 The allowed rate of return is to be a weighted average of the return on equity and return on debt “determined on a nominal vanilla basis that is consistent with the estimate of the value of imputation credits referred to in rule 87A”: r 87(4)(b).

627 Rule 87(5) outlines the requirements for determining the allowed rate of return, as follows:

In determining the allowed rate of return, regard must be had to:

- (a) *relevant estimation methods, financial models, market data and other evidence;*
- (b) *the desirability of using an approach that leads to the consistent application of any estimates of financial parameters that are relevant to the estimates of, and that are common to, the return on equity and the return on debt; and*
- (c) *any interrelationships between estimates of financial parameters that are relevant to the estimates of the return on equity and the return on debt.*

628 The estimation of the return on equity is required to be undertaken such that it “contributes to the achievement of the allowed rate of return objective”, and in doing so “regard must be had to the prevailing conditions in the market for equity funds”: r 87(6) and r 87(7).

629 Pursuant to r 87(13), the ERA is required to make and publish rate of return guidelines. Rule 87(14) requires that these guidelines set out:

- (a) *the methodologies that the AER proposes to use in estimating the allowed rate of return, including how those methodologies are proposed to result in the determination of a return on equity and a return on debt in a way that is consistent with the allowed rate of return objective; and*
- (b) *the estimation methods, financial models, market data and other evidence the AER proposes to take into account in estimating the return on equity, the return on debt and the value of imputation credits referred to in rule 87A.*

630 While the guidelines are not mandatory, the regulatory authority must state reasons for any departure from them in reasons provided for any access arrangement decision: r 87(18).

ATCO’s matters for review

631 ATCO’s challenges under this ground of review relating to material errors of fact were limited to those listed in ATCO’s Review Application (and consequent resultant errors regarding alleged superiority of the S-L CAPM). Ultimately, this challenge hinges upon whether the approach and results of several recent Australian studies of the FFM, available at the time of the ERA decision, should have led the ERA to amend its view of the FFM being neither relevant nor fit for purpose.

632 The specific challenges are as follows:

The ERA’s Final Decision, Amended Final Decision and Access Arrangement

Decision involved the following error or errors of fact, alone or in combination, which were material to its decision, within the meaning of section 246(1)(a) and/or (b) of the National Gas Law:

The FFM

- (a) *The ERA's finding that the FFM is empirically unstable and the ERA's finding that applications of the FFM in Australia fail to produce consistent outcomes contain errors of fact because some studies (in particular the 2012 studies of Brailsford, Gaunt and O'Brien) have used much larger data sets and developed state of the art empirical methodologies (which are now considered accepted good practice) and have given consistent results.*
- (b) *The ERA's finding that studies in the Australian context do not consistently report that the additional value (HML) factor used in the FFM is priced is an error of fact because:*
 - (i) *there is consistent evidence that the value factor is priced in the Australian market. In particular, the 2012 study of Brailsford, Gaunt and O'Brien has found strong support for the value factor; and*
 - (ii) *the evidence before the ERA that the required return for high book-to-market (or 'value') stocks is consistently and materially higher than the S-L CAPM would suggest is at least as extensive and comprehensive as the evidence of the low equity beta/Black CAPM effect (as accepted by the ERA);*

633 Challenges by ATCO relating to incorrect exercise of discretion or reaching an unreasonable decision were limited to those in paras 54(a) – (k) of ATCO's Review Application below, with paras 54(ee) – (ll) dependent upon the ERA incorrectly giving any weight to the FFM:

- 54. *The exercise of the ERA's discretion in making the Final Decision, Amended Final Decision and Access Arrangement Decision was incorrect and, further or alternatively the ERA's decision was unreasonable having regard to all the circumstances within the meaning of section 246(1)(c) and/or (d) of the National Gas Law, because:*

The FFM

- (a) *the ERA erred in preferring its own study in relation to the FFM over the published state-of-the-art study of Brailsford, Gaunt and O'Brien, contrary to the view of Professor Gray that no reasonable person would do so in circumstances where:*
 - (i) *the ERA's study considered only 5 years of data (compared, for example, to the Brailsford, Gaunt and O'Brien study which considered 25 years of data) which is an insufficient time period for a cross-sectional study and to test any asset pricing model;*
 - (ii) *the ERA justified the length of its study by reference to the standard Australian regulatory control period of 5 years, which is wholly irrelevant to the time period required for a*

valid cross-sectional asset-pricing test;

- (iii) the ERA study did not consider at all the comparative performance of the SL-CAPM (which is the only point of conducting such a cross-sectional test);*
- (iv) the results of the ERA's study are implausible (likely due to the insufficient dataset);*
- (b) the ERA erred in concluding that it should not apply more weight to higher quality studies (that adopt the latest econometric techniques, that use comprehensive and up-to-date data sets, and which have been subjected to more scrutiny), but that it should have equal regard to all studies (regardless of their quality);*
- (c) the ERA erred in concluding that the fact that the FFM was originally developed to improve upon the very poor empirical performance of the S-L CAPM actually supports the continued use of the S-L CAPM over the FFM. It is illogical to maintain sole reliance on the CAPM due to the fact that alternative models (i.e. the FFM) were developed for the purpose of improving on the CAPM's poor empirical performance;*
- (d) the ERA erred in concluding that the FFM cannot contribute to the rate of return objective and is not fit for purpose of estimating the return on equity;*
- (e) the ERA erred in concluding that the FFM is not relevant because it is an empirical test rather than an asset-pricing model when the origins of the FFM were in studies documenting the failings of the CAPM, which studies showed that the additional factors introduced by the FFM result in the modelling better fitting the data;*
- (f) the ERA erred in concluding that the FFM is not relevant because a range of studies produce a range of estimates without considering the quality of those studies or preferring the higher-quality studies over others;*
- (g) the ERA erred in concluding that the FFM is not relevant due to the existence of other multi-factor models, none of which have been recognised by a Nobel Prize and none of which have been submitted by any stakeholders in this process;*
- (h) the ERA erred in preferring the use of the S-L CAPM over the FFM on the basis that applications of the FFM in Australia fail to produce consistent outcomes and estimates from the FFM vary significantly and produce mixed results without considering whether, or to what extent, the S-L CAPM suffers from the same criticisms;*
- (i) in rejecting the FFM as not relevant, the ERA erred in considering the fact that the FFM has not been adopted in the estimation of a return on equity by other economic regulators, when the FFM is commonly used by market practitioners and in academic research, is discussed at length in textbooks, is part of the curriculum for professional accreditation courses and has been recognised by a*

Nobel prize;

- (j) *the ERA erred in concluding that the FFM is not relevant, and preferring the sole use of the S-L CAPM to estimate the return on equity, when the most comprehensive study to date (the 2012 Brailsford, Gaunt and O'Brien study) found the FFM to be consistently superior to the CAPM empirically;*
- (k) *the ERA erred in not having regard to the FFM when estimating the return on equity;*

...

The S-L CAPM

...

- (ee) *the ERA erred in concluding that an equity rate of return derived solely from the S-L CAPM is consistent with the outcomes of efficient, effectively competitive markets, with prevailing market outcomes and for the benchmark efficient entity;*
- (ff) *the ERA erred in concluding that only the S-L CAPM should be utilised directly to estimate the return on equity;*
- (gg) *the ERA erred in concluding that incorporating returns from other models would detract from the ability of the ERA to meet the allowed rate of return objective;*
- (hh) *the ERA erred in concluding that its application of the S-L CAPM meets the requirements of the National Gas Rules and the allowed rate of return objective;*

Estimating the return on equity

- (ii) *the ERA failed to take all relevant information into consideration with respect to its estimate of the return on equity in that the ERA failed to use any of the Black CAPM, DGM or FFM in directly estimating the return on equity and relied solely on the S-L CAPM to directly estimate the return on equity;*
- (jj) *rather than considering the Black CAPM, DGM or FFM and the returns they produce from ATCO and then deciding whether they influence the estimate of the return on equity, the ERA erred in rejecting the models out of hand for directly estimating the return on equity;*
- (kk) *the ERA's decision does not comply with Rule 87(5)(a) of the National Gas Rules in that:*
 - (i) *under Rule 87(5)(a), in determining the allowed rate of return, regard must be had to relevant estimation methods, financial models, market data and other evidence;*
 - (ii) *having decided that the Black CAPM, DGM and S-L CAPM are all relevant for the purpose of estimating a return on equity for regulatory decisions in Australia, the ERA then*

determined that those models were irrelevant for the purposes of determining the return on equity to apply to ATCO and placed sole reliance on the SL CAPM to calculate its estimate of the return on equity; and

(iii) the ERA further erred in concluding that the FFM, which is a relevant estimation method and/ or financial model, is not relevant; and

(iv) the ERA further erred when it failed to accept the weightings which ATCO had placed on Black CAPM, DGM, S-L CAPM, and FFM, as set out in paragraph 49 above, when proposing the rate of return on equity to apply;

(II) by reason of the errors identified in the preceding sub-paragraphs:

(i) the ERA's decision does not comply with Rule 87(6) of the National Gas Rules in that it does not contribute to the achievement of the allowed rate of return objective as the rate of return derived from using the S-L CAPM only to estimate the return on equity is lower than the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to ATCO;

(ii) the ERA's decision does not comply with Rule 87(7) of the National Gas Rules in that it does not have proper regard to the prevailing conditions in the market for equity funds for the reasons set out above;

(iii) the ERAs decision not comply with Rule 87(2) and (3) as the allowed rate of return will not achieve the allowed rate of return objective;

(iv) the ERA's decision does not comply with Rule 74(2) of the National Gas Rules as it does not represent the best estimate of the return on equity for the benchmark efficient entity;

(v) the ERA's estimate of the return on equity is unreasonably low and will impede efficient investments and the ERA erred in concluding to the contrary; and

(vi) the ERA erred in concluding that its estimate of the return on equity is commensurate with the equity costs incurred by a benchmark efficient entity with a similar degree of risk as ATCO with respect to the provision of reference services

634 If successful, ATCO requested that some weight be given to the outputs of a FFM in the determination of the return on equity.

635 ATCO provided expert evidence from its consultant SFG Consulting ('SFG') that the FFM would imply a return on equity of 6.1 percentage points above the risk free rate, compared to a 5.3 percentage point premium to the risk free rate in the Amended Final Decision. This

would involve an increase in the return on equity of 0.8 percentage points, which is material. However, in its Amended AA Revision Proposal, ATCO had argued that a weighted average of relevant models be used, with a weight of 37.5% for the FFM. Consequently, because this was viewed by ATCO as a constraint on allowable challenges, it argued that the FFM estimate be given a weight of 37.5% and the ERA S-L CAPM based estimate be given a weight of 62.5%. This would lead to 0.3 percentage points (37.5% of 0.8 percentage points) being added to the return on equity.

The regulatory background

636 As outlined by the Tribunal in *PIAC and Ausgrid* (at [640] – [648]), the 2012 Rule Amendments significantly altered the process for determining the return on capital. Previously r 87 of the NGR required the return on equity to be determined using “a well accepted financial model, such as the Capital Asset Pricing Model”. The subsequent, now, required approach is as set out above, and includes publication of rate of return guidelines

637 As previously noted, the ERA published rate of return guidelines on 16 December 2013, together with an explanatory statement document and appendices, one of which (Appendix 8) contained the ERA’s evaluation of models for the return on equity. This considered, *inter alia*, various forms of the CAPM and the FFM. The conclusion drawn by the ERA at that time regarding the FFM was that:

[o]verall, the Authority has significant concerns as to the robustness of the FFM model specification and its results, particularly as the model is not ‘based on a strong theoretical foundation’. The Authority’s view is that the model is not ‘fit for purpose’ or able to be ‘implemented in accordance with best practice’ at the current time. On this basis, the Authority considers that the model cannot be relied on to achieve the rate of return objective, and hence is not relevant at the current time.

638 The ERA’s conclusion was that:

The Authority has reviewed these asset pricing approaches in terms of their ability to contribute to the achievement of the allowed rate of return objective. The conclusion from that assessment leads the Authority to consider that only the Sharpe Lintner CAPM model is relevant for informing the Authority’s estimation of the prevailing return on equity for the regulated firm, at the current time.

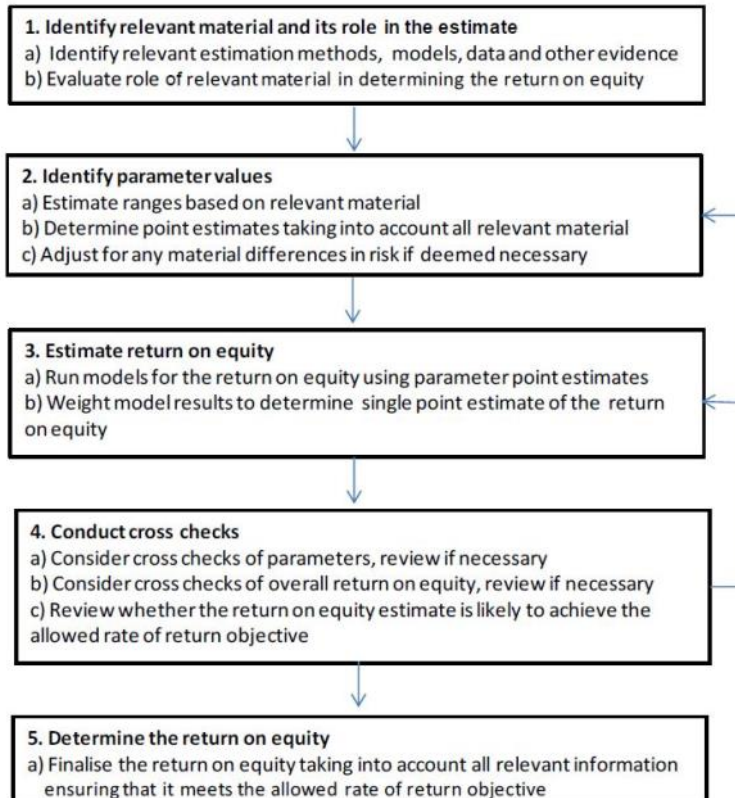
However, the Authority proposes to give weight to relevant outputs from the DGM when estimating the market risk premium (MRP) for input to the Sharpe Lintner CAPM. In particular, estimates from the DGM will be used to inform the range of the MRP, which will be then used as input to the Sharpe Lintner CAPM.

Other models and approaches are considered to be not relevant within the Australian context at the current time, at least without some new developments in terms of the theoretical foundations or in the empirical evidence.

639 This explicitly excluded a role for the FFM at that time, but did not preclude a possible subsequent role if there were “some new developments in terms of the theoretical foundations or in the empirical evidence”.

640 Rather, the ERA outlined the following five step approach to be followed in estimating the return on equity:

Figure 1 Proposed approach to estimating the return on equity³¹



641 In the light of the refined challenge by ATCO to the ERA decision, which focuses upon the decision to disregard estimates of the return on equity derived from the FFM, it is primarily the first step in that process, to identify relevant material and its role in the estimate, which is at issue.

Regulatory decision

642 The process of determination of the return on equity in the matter under appeal involved the following stages. First, ATCO provided its AA Revision Proposal in March 2014 in which it argued that adherence to the ERA’s guidelines would “not result in an estimate of a return on equity that achieves the ARORO or complies with the rules”. Among the reasons advanced was the primary reliance of the ERA on the S-L CAPM and exclusion of other relevant

estimation methods and models. ATCO's proposal thus was to propose that an equally weighted average of four methods of calculating the rate of return be used. These four methods were:

- (1) the required return of the average firm;
- (2) the S-L CAPM;
- (3) the FFM;
- (4) the dividend growth model ('DGM').

643 Based on expert advice from SFG, the rate of return on equity proposed by was 10.7% p.a.

644 In its Draft Decision, the ERA rejected the approach proposed by ATCO. It noted in its rate of return guidelines that "estimate materials" (estimation methods, financial models, market data, and other evidence) would need to pass an "adequacy threshold" to be considered relevant. It noted that some may perform better on some criterion, and that an "on balance" assessment of contribution to the ARORO and compliance with legislative requirements was required.

645 The ERA responded to ATCO's criticism that by excluding consideration of other models, and in particular the FFM, it was not determining a return on equity consistent with the ARORO. The ERA rejected the arguments of ATCO and SFG, concluding that it "remains of the view that the FFM is not relevant information in the context of estimating the return on equity". In coming to that view, the ERA:

- (1) referred to its own empirical study of the FFM in Australia (incorporated at Appendix 4 of the Draft Decision) as confirming the inconsistency of results from previous applications of the FFM for Australia, with particular reference to the role played by portfolio formation methods in such empirical studies;
- (2) reiterated its concern about absence of underlying theory for the FFM; and
- (3) noted the recent development by Professors Fama and French of a five factor model.

646 Particularly relevant to the grounds of ATCO's refined challenge, which relied heavily on the results provided by two studies by Brailsford, Gaunt and O'Brien (and updating by SFG), the ERA noted that its view on the lack of robustness of the FFM for Australia was not changed by the updated study of Brailsford, Gaunt and O'Brien.

647 In its Amended AA Revision Proposal, ATCO argued that ERA's rejection of models other than the S-L CAPM is based on a number of errors. With reference to rejection of the FFM, ATCO noted the expert opinion from SFG that the errors are:

- (1) to "reject the FFM on the basis of its empirical motivation" when FFM was developed for the purpose of improving on the very poor empirical performance of the CAPM; and
- (2) giving weight to the ERA's own study compared to "the published study of Brailsford, Gaunt and O'Brien, which concludes that the *three factor model is found to be consistently superior to the CAPM in the Australian market*".

648 In its Amended AA Revision Proposal, ATCO argued that:

AGA has based its estimate from the FFM on the SFG 2014 study, which sets out the most recent estimates of beta and the size and book-to-market premiums using Australian and US-listed observations. As a result, AGA's FFM estimate encompasses the most recent and relevant market information. In order to arrive at an estimate the FFM has been populated with the following parameters:

- *Market beta of 0.77*
- *Ex-imputation MRP of 6.53%*
- *Risk premium in relation to the size factor of -0.19%*
- *Risk premium in relation to the book-to-market of 1.15%*
- *Risk free rate and required return on the market as specified in the SL CAPM model*

649 Based on advice from SFG, ATCO argued that the return on equity should be calculated as a weighted average of four models: S-L CAPM (weight of 12.5%); Black CAPM (weight of 25%); FFM (weight of 37.5%); and DGM (25% weight), where these weights differ from those proposed in its AA Revision Proposal.

650 In the justification for the weights, SFG noted that

[o]f the 75% weight that is applied to asset-pricing-models, we apply half to the Fama-French model and half to the CAPM. That is the question of whether the value premium is a proxy for a risk factor or a statistical aberration is addressed by applying equal weight to each possibility.

651 This would appear to suggest that even ATCO recognised that some doubt exists over the appropriate interpretation of the empirical "facts" derived from the modelling exercises of researchers.

652 In its Final Decision and the Amended Final Decision – which involved no changes relevant to this topic – the ERA amended its approach to determining the return on equity in a manner

which *inter alia* retained the S-L CAPM as the primary method for estimating the return on equity, but incorporated information based on the Black CAPM and the DGM.

653 In doing so, it maintained its prior position of allowing no role for the FFM. The ERA relied on the Australian Energy Market Commission ('AEMC') to explain that the 2012 Rule Amendments give the regulator greater discretion, that "[t]he objectives and factors show the regulator what it must bear in mind when it exercises that discretion".

654 However, as the AEMC also said

the objective has primacy over other matters which the regulator is directed to consider.

These other matters include factors which the regulator is directed to consider....

The regulator must actively turn its mind to the factors listed, but it is up to the regulator to determine how the factors should influence its decision. It may, indeed, consider all of them and decide none should influence its decision.

655 In *PIAC v Ausgrid* (at [713]), the Tribunal affirmed the obligation on the regulator as

requiring it to give consideration to the range of sources of evidence and analysis to estimate the rate of return. It need not give particular weight to any one source of evidence, and indeed it might treat particular evidence as having little or no weight in the circumstances. It is for the AER to make that assessment.

656 Further, the Tribunal concluded that it "does not consider the AER, by selecting the S-L CAPM as its foundation model made an error of fact."

657 The ERA went on to say that following ATCO's Amended AA Revision Proposal including the proposed use of the FFM, the ERA "once again gives consideration to the ability of these models to deliver estimates that meet the requirements of the NGR, and the allowed rate of return objective, in what follows." The ERA then devoted approximately 11 pages to an assessment of the FFM before concluding that:

the Authority is of the view that the Fama French three-factor model is neither relevant nor fit for the purpose of estimating a return on equity for a regulatory decision in Australia. As a result, the Authority remains of the view that the FFM should play no role in estimating a return on equity for ATCO. This decision is based on the following considerations:

- *The Fama French three-factor model was not developed on a theoretical basis.*
- *New factors that are now included in the new Fama French five factor model raise questions about the validity of the FFM three factor model.*
- *The estimates from the Fama French three factor model vary significantly and produce mixed results.*

- *The Fama French three factor model is not used by economic regulators either in Australia or overseas to estimate the expected return on equity.*

658 It is clear from the preceding, that the ERA did consider the potential role of the FFM in the determination of the return on equity, including making its own assessment of the strengths and weaknesses of the model, and of the resulting evidence from its application to Australian equity markets. The issue is then whether, in making that assessment, the ERA committed an error or errors of fact or was unreasonable in deciding to reject a role for the FFM.

Consideration

659 While ATCO listed a large number of failures by the ERA, they all stand or fall upon one specific question: was the available evidence such that incorporation of information from available FFM studies of the Australian equity market would have led the ERA to make a return on equity decision more consistent with the ARORO, and lead to a materially preferable designated NGO decision?

660 This ultimately involves comparison of the merits of alternative models generating different results, based on relevant criteria. However, while there are (or may be) cases where unanimity would exist about the superiority of one model over another, this, as reflected in the differing views of experts, is not such a case. Reasonable people could disagree based on different emphasis placed on different criteria as well as differences in assessment of how well different models met those criteria. This is particularly the case in the current circumstances where the objective of inquiry is estimation of the required rate of return demanded by equity investors in a company, at a particular point in time. That is, itself, directly unobservable, and must be inferred from other observable data using models incorporating allowance for risks (risk premiums), or other considerations, which are believed to influence the rate of return demanded by investors. Identifying what are relevant risks, and then reliably quantifying their effects are particular issues involved in this instance.

661 The FFM was developed as an empirical model prompted at least in part by observed anomalies inconsistent with the CAPM. In particular, it was observed that historical returns on equities (after allowing for the effect of the systematic risk factor implied by the CAPM) were related to size and to book-to-market value of companies. This prompted research as to whether these might reflect the effect of additional risk factors (rather than simply being characteristics of the company) contributing to required returns.

662 The FFM thus involved constructing variables which might represent such risk factors and assessing whether stock returns were reliably related (with differing sensitivities) to movements in these variables. The risk factors constructed in the FFM involved a relatively complicated process of constructing a number of portfolios each of which comprised stocks with particular size characteristics, and particular book-to-market value characteristics. For example, one portfolio might contain those stocks which were in both the top size decile and in the top decile by book-to-market value. At the other extreme would be a portfolio containing stocks in both the bottom deciles by size and book-to-market value.

663 The “risk factors” are proxied by the variation over time in the difference in returns between various portfolios. The HML (book-to-market) factor is the difference in returns between the portfolios including, respectively, the highest and lowest book-to-market value stocks. The SMB (size) factor is, similarly, the difference in returns between portfolios of smallest and largest stocks. There are potentially many ways of forming such portfolios (and in how their composition varies over time), and various ways of testing whether the resulting risk factors contribute reliably to explaining historical stock returns. By assuming that resulting historical relationships provide some guide to the future it is then inferred that the risk factors are also relevant for determining required returns (just as occurs in use of the CAPM). The contribution made to required returns reflects the estimated sensitivity of a stock’s return to the risk factor (its factor loading) multiplied by the risk premium associated with that risk factor.

664 The FFM has had a significant influence on the academic finance research agenda, leading to many studies applying similar methods to different markets as well as many attempts to find other risk factors. Academic research presented to the Tribunal indicates the “discovery” by various researchers of over three hundred such factors – although that research also raised questions about whether the processes involved in such discovery and statistical tests used as supporting evidence led to incorrect acceptance of many newly discovered risk factors.

665 While many of those subsequent studies build on the foundations of the FFM (by including the size and value factors), the FFM is not universally accepted as providing a “better” model for the explanation of equity returns for a range of reasons exemplified in the debate between the ERA and ATCO.

666 It is not the role of the Tribunal to assess the merits of the FFM versus the S-L CAPM, but rather to consider whether the ERA made errors in rejecting a role for the FFM, on incorrect

reasons, or in misinterpreting, such reasons. It is those reasons to which the Tribunal now turns.

Theoretical Foundations

667 One plank in the ERA's argument for disregarding the FFM is concern over its genesis as an empirical approach without prior theoretical foundation. As argued by ATCO (and SFG), the discovery of empirical irregularities prior to development of generally accepted theoretical explanations should not necessarily weaken confidence in a model. There have been subsequent attempts to provide a theoretical foundation for the FFM (including arguments that it is not inconsistent with some existing theories such as the Arbitrage Pricing Theory which admits of multiple risk factors but without identifying theoretically what they are). However, experts disagree on whether the research, to date, provides a clear theoretical foundation for the empirical findings.

668 The Tribunal is of the view that it was not an error, nor unreasonable, for the ERA to take into account, as one input into its decision, concerns over the theoretical foundations of the FFM in coming to its view to disregard the FFM in determining the ARORO. By itself, lack of a generally accepted theoretical explanation for a consistently demonstrated and agreed set of empirical "facts", in the form of results of statistical analysis, would be unlikely to lead a reasonable person to disregard those facts in attempting to draw conclusions about their implications. In this case, the "facts" are the existence of a statistical relationship between the return on equity and some particular financial variables, variously constructed by researchers, and all purporting to represent the same concepts. However, where those empirical facts are not generally agreed, perhaps because different researchers have constructed empirical proxies differently for the same concept, concerns about lack of strong theoretical foundations could be expected to lead a reasonable person to place less, or no, weight on the model generating those "facts". Thus whether the ERA's decision in this regard was unreasonable, hinges on whether it erred in interpreting the robustness of the "facts" before it regarding outputs from the FFM. This is considered in later paragraphs.

New five factor model implications

669 The ERA made submissions referring to the development by Professors Fama and French of a new five factor model for equity returns. It was argued that their estimates of this model for the case of the USA had led to results which appeared to remove the role of the HML factor as a determinant of equity returns. Since there is no argument in this appeal to use the new

five factor model in the determination of the ARORO, this reason has little relevance, other than its potential for causing the ERA or other parties to be sceptical of the three factor FFM to place reduced weight on the empirical facts emanating from it.

Mixed results

670 In the Amended Final Decision, the ERA argued that one reason for disregarding the FFM is that “the estimates ...vary significantly and produce mixed results”. This general statement was made more specific:

- *applications of the FFM in Australia fail to produce consistent outcomes;*
- ...
- *...studies in the Australian context do not consistently report this pricing – some studies price the size factor, while others price the value factor;*
- *different proxies are adopted...with the result that the estimates from the FFM vary significantly from study to study;*
- *...adopting different portfolio formation on the same dataset will provide difference outcomes, yet portfolio formation is a key characteristics of the FFM*

671 In support of these contentions, the ERA provided at Table 73 the results of a number of prior studies (including two papers by Brailsford, Gaunt and O’Brien from 2012 which feature prominently in ATCO’s submission, namely: ‘The Investment of the value premium’ in the Pacific Basin Finance Journal (**BGO PBFJ**), and ‘Size and book-to-market factors in Australia’ in the Australian Journal of Management (**BGO AJM**)). The ERA also referred to its own FFM study, one conclusion drawn from which was that results were significantly dependent on the method of portfolio formation used. This was also the conclusion of the BGO PBFJ paper which stated that “different methods of portfolio formation lead to different conclusions.”

672 The ERA pointed to different results in a prior version of the BGO AJM paper from 2008 where a different portfolio formation process was used. The Tribunal recognises that the evolution of approaches and differences in results in succeeding versions of a research project’s output are an inherent feature of the research process, rather than indicating that the credibility of the most recent results is contaminated by differences with earlier results, as was suggested in the oral submission. However, the sensitivity of results to different approaches found in the two papers does reinforce the position of the ERA that results of applications of the FFM are dependent upon the approach used (in this, case for portfolio formation). In addition, in the absence of a single generally agreed “right” approach, there is therefore uncertainty about the superiority of one set of results over another.

673 ATCO argued that the ERA made an error (or errors) of fact in concluding that mixed results were a relevant factor for disregarding the FFM in determining the return on equity. Their argument was based on the existence of BGO PBFJ and BGO AJM, and the subsequent updating of those studies by SFG. The claim is that those studies (the latest available at the date of the ERA's decision) adopt superior techniques and data to previous Australian studies (including that undertaken by the ERA itself), and should lead to acceptance of their results as providing confirming evidence of the relevance of the FFM to Australia, and providing reliable estimates of its quantitative significance. In particular, BGO AJM finds that the HML factor is priced and consistent with expectations, although the SMB factor results are not consistent with expectations. The ATCO proposal for an adjustment to the return on equity is based on results from SFG applying and updating BGO AJM (including the effects of both the HML and SMB factors).

674 There is little question that BGO AJM involves use of a more comprehensive database than prior Australian studies. It is also the case that the BGO studies carefully investigate the effects of some commonly used different methods of portfolio formation – and find (as does the ERA's own study) that results are dependent upon the approach used. In BGO AJM they construct portfolios in a way which more closely resembles the FFM approach for the USA and which they state is “a more appropriate portfolio formation method” and find that the HML factor is priced, but the SMB factor is not. Specifically, the results involve a coefficient on the HML factor which is positive and statistically significant, but an insignificant negative coefficient on the SMB factor (which is of opposite sign to that expected).

675 The Tribunal accepts that there may be “more appropriate” ways to conduct empirical research which, in this case involves, *inter alia*, methods of portfolio formation. Whether there is a “most appropriate” way and whether the BGO approach is more appropriate than others simply because it resembles the Fama-French USA approach and generates some similar results are, at the current time, open questions. The issue thus becomes that of what weight a reasonable person would accord to the results of a range of studies and the implications of variations between them.

676 ATCO effectively argued that full weight should be given to BGO AJM (and SFG updates), and other FFM studies in Australia be given no weight. (In submissions, ATCO referred to the BGO studies as providing a “watershed” moment in the Australian search for reliable

estimates of risk factors and their effects on the required return on equity). It thus argued that the claim that diverse results from a range of previous studies mean that the FFM is unstable and thus not relevant for determining the return on equity is invalid. The ERA alternatively argued that the diversity of results arising from different approaches means that no conclusive results can be drawn from existing Australian FFM studies regarding the required return on equity. The ERA argued:

The Authority disagrees with SFG's view that a range of studies of variable quality produce a range of estimates and therefore should not be used as the basis for the outright rejection of the entire model and that a better approach is to consider the robustness and the reliability of the best available estimates of each model.

677 Furthermore, the ERA rejected BGO and the SFG updates as superior to other studies.

678 The Tribunal's role is not to pass judgment on the superiority of one study over the others investigating the application of the FFM to Australian data. Its role is to assess whether the regulator made errors or was unreasonable in considering (or not considering) the available information available to it in forming a judgment about the merits of incorporating results from one, or some, or none of those studies into its determination of the return on equity.

679 The ERA decided that, contrary to the view of SFG (and some other experts), the range of diverse results from the range of available studies meant that no confidence could be placed on any of those results. In this, it was supported by the views of its own experts, McKenzie and Partington. Ultimately, the decision involves a subjective weighting of the facts available which, in this case, are varying statistical estimates of particular parameters from a range of studies. The claimed superiority (by ATCO) of BGO AJM (and the SFG updates) might lead one to accord greater weight to their estimates, relative to those of other studies.

680 Alternatively, one could be inclined to accord full weight to the results of the claimed superior study, and interpret that study's method and results as demonstration of support for the model involved. This is a matter on which reasonable people could disagree, due to differences in caution, different prior beliefs, or subjective weightings of alternative types of evidence, without making demonstrable error. The Tribunal accepts that the ERA did carefully consider the merits of the FFM, including results from the latest available research, before rejecting the use of the FFM, and in doing so did not make errors of fact or act unreasonably.

No prior use by regulators

681 The ERA's Amended Final Decision refers to no prior use of the FFM by regulators in Australia and overseas, as a further reason supporting its decision to disregard the FFM. This, it was argued by ATCO, involves circular reasoning, such that prior non-use justifies continued non-use, regardless of new evidence. That would be the case if decisions of other regulators to eschew the FFM were based on lack of investigation or evidence of merits of the FFM, and that the ERA acted similarly. It could then amount to an error of fact or unreasonable decision. However, an alternative explanation is that decisions by other regulators have been based on analysis of evidence and led them to a decision to reject use of the FFM, with those decisions not having been previously found to constitute errors in available appeal processes. This would then provide support, in the absence of new contradictory evidence, for adopting the same position – rather than simply revisiting arguments raised in such prior cases.

682 In this instance, new evidence has been advanced by ATCO. Thus, sole reliance on the rejection of the FFM in prior regulatory decisions as an explanation for the ERA's decision would be unreasonable, or an error if that new evidence were persuasive. However, because the ERA has considered that new evidence and rejected it, it is not unreasonable to draw upon prior regulatory decisions in support of its view to reject the FFM in this case. Consequently, the Tribunal is of the view that the ERA did not make an error of fact or act unreasonably in relying on prior rejection of use of the FFM by other regulators as one factor in reaching its decision.

683 The Tribunal finds that the ERA did not make an error of fact or act unreasonably in rejecting use of the FFM in calculating the return on equity.

GAMMA

684 The ERA considered the Tribunal's reasons for decision in *PIAC and Ausgrid*.

685 The ERA accepted that it would undermine the effectiveness of the regulatory regime and would be against the public interest in consistency of decision-making for it to re-argue matters that have recently been considered and decided by the Tribunal in that matter, notwithstanding that aspects of the *PIAC and Ausgrid* decision relating to the value of imputation credits are currently the subject of an application for judicial review before the Federal Court.

686 For the purpose of this application, and applying the reasons of the Tribunal in *PIAC and Ausgrid*, the ERA accepted that:

- (1) the ERA has made a reviewable error in its decision to apply a gamma of 0.4 in its rate of return determination in the Amended Final Decision; and
- (2) the best estimate of gamma on the basis of the material before the ERA at the time of its Amended Final Decision was 0.25.

687 The Tribunal accepts, on the basis of the material before it, that a gamma value of 0.25 should be adopted and that the ERA erred in adopting the alternative figure of 0.4.

DISPOSITION

688 Sections 259(4a)-(4c) were inserted into the NGL with effect from March 2014. Section 259(4a) provides that, in a case where the decision under review is a designated reviewable regulatory decision, the Tribunal may only make a determination to vary the designated reviewable regulatory decision (under s 259(2)(b)) or to set aside the designated reviewable regulatory decision and remit the matter back to the ERA (under s 259(2)(c)) if:

*(a) the Tribunal is satisfied that to do so will, or is likely to, result in a decision that is materially preferable to the designated reviewable regulatory decision in making a contribution to the achievement of the national gas objective set out in s 23 of the NGL (NGO) (a **materially preferable designated NGO decision**) (and if the Tribunal is not so satisfied the Tribunal must affirm the decision under s 259(2)(a)); and*

(b) in the case of a determination to vary the designated reviewable regulatory decision, the Tribunal is satisfied that to do so will not require the Tribunal to undertake an assessment of such complexity that the preferable course of action would be to set aside the decision and remit the matter to the ERA to make the decision again.

689 In considering its role in the review process, the Tribunal in *PIAC and Ausgrid* (at [91] – [93]) made the following pertinent comments:

the correction of error or errors in a decision under review will not necessarily lead to a materially preferable decision. Whether there is a preferable decision to the decision made by the AER depends upon an assessment of the decision as a whole, and a comparison of that decision with a putative alternative decision; it does not depend simply on an assessment of errors in individual components of the decision under review. That reflects the Minister's comments that the 2013 Legislative Amendments:

Require the [Tribunal] to undertake a holistic assessment of whether the setting aside or varying of the reviewable regulatory decision, or remission of the matter back to the original decision maker, will or is likely to deliver a materially preferable outcome in the long term interests of consumers.

See: South Australia, House of Assembly, Hansard, 26 September 2013 at 7173 (The Hon J R Rau).

The 2013 Legislative Amendments reflect a deliberate policy decision to change the NEL and NGL and, in particular, to change the scope of the Tribunal's limited merits review function. They introduce a series of steps which require the Tribunal, even if it is satisfied of one or more grounds of review arising from one particular aspect of the AER's decision, to consider whether and how the potential consequences of that ground being established may be reduced, counterbalanced or rendered immaterial following the processes mandated by ss 71P(2a), 71P(2b)(a) and 71P(2b)(c) of the NEL and ss 259(4a), 259(4b)(a) and 259(4b)(c) of the NGL.

...it is axiomatic in the principles of regulatory economics, that promoting allocative, productive and dynamic efficiency generally serves the long term interests of consumers. However, the 2013 Legislative Amendments contemplate that there can be more than one available decision that is economically efficient – and certainly more than one available decision that is roughly so, having regard to the unavoidable approximations involved.

The role of the AER and the Tribunal in giving effect to the NEO and NGO is to promote the “long term interests of consumers” with respect to the matters stipulated. This will always involve an attempt to promote efficient investment in, and operation and use of, services, but will also require taking into account other factors as appropriate.

690 As the Tribunal has not found there to be any error in the ERA's decision, other than in relation to gamma, the question is as to the appropriate relief to provide. The Tribunal is of the view that the relevant decisions should be set aside and a new decision made so as to take into account the correct value of gamma, but this should be done by the ERA.

691 The Tribunal is satisfied that for it to do so would require the Tribunal to undertake an assessment of such complexity that it is not appropriate for it to undertake that task and it is preferable that the matter be remitted to the ERA.

692 The Tribunal is satisfied that in so acting in setting aside the relevant decisions of the ERA, and in remitting, will likely result in a decision that is materially preferable to the relevant decision set aside in making a contribution to the achievement of the NGO.

693 The Tribunal determines that:

- (1) Pursuant to s 259(2)(c) of the *National Gas Access (Western Australia) Law*, the Amended Final Decision, including appendices, and the Access Arrangement Decision, including appendices, are set aside and remitted to the ERA to make the decisions again in accordance with the following directions:

- (a) the ERA is to decide the constituent components of the Amended Final Decision and Access Arrangement Decision that involve the estimated cost of corporate income tax (γ) by reference to a γ of 0.25; and
- (b) the ERA is to consider, and to the extent appropriate, to vary interrelated constituent components of the Amended Final Decision and Access Arrangement Decision, having regard to s 28(1)(b)(iii) of the NGL, where necessary in light of variations made to the Amended Final Decision and Access Arrangement Decision by reason of sub-para (a) above.

I certify that the preceding six hundred and ninety-three (693) numbered paragraphs are a true copy of the Reasons for Determination herein of the Honourable Justice Middleton, Professor K T Davis and Mr R Steinwall.

Associate:

Dated: 13 July 2016