



Jemena Gas Networks (NSW) Ltd – Further response to the draft decision

Attachment 5

**PwC expert assessment of AER errors
in the draft decision submitted on 15
April 2010**

28 April 2010



Jemena Gas Networks
(NSW) Ltd
ABN 87 003 004 322

15 April 2010

Email: NSWACTgas@aer.gov.au

Level 14
1 O'Connell Street
Sydney NSW 2000
Locked Bag 5001
Royal Exchange
Sydney NSW 1225
T +61 2 9270 4500
F +61 2 9270 4501
www.jemena.com.au

Mr Mike Buckley
General Manager, Network North Branch
Australian Energy Regulator
23 Marcus Clarke Street
CANBERRA ACT 2601

Independent expert report on AER modelling issues:

Dear Mike

In April 2010, Jemena Gas Networks (NSW) Ltd (**JGN**) commissioned an independent expert report by Jeff Balchin (of PriceWaterhouseCoopers) on whether certain modelling issues that JGN identified with the Australian Energy Regulator's (**AER**) draft decision amount to errors. JGN notified the AER of these modelling issues in its letter of 3 March 2010.

Mr Balchin's report, which was prepared in accordance with the High Court Guidelines for expert witnesses, is attached to this letter for your reference.

We understand that this report is being provided before the public submission due date of 28 April 2010 and provide this for your early consideration as part of JGN's access arrangement review process.

If you have any questions regarding this proposal please contact me on (02) 9270 4554 or arapisarda@jemena.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "Alf Rapisarda".

Alf Rapisarda
General Manager Gas Networks

Ms Sandra Gamble
Group Manager Regulatory
Jemena Limited
Level 14, 1 O'Connell Street
SYDNEY NSW 2000

PricewaterhouseCoopers
ABN 52 780 433 757

Freshwater Place
2 Southbank Boulevard
SOUTHBANK VIC 3006
GPO Box 1331
MELBOURNE VIC 3001
DX 77
Telephone 61 3 8603 1000
Facsimile 61 3 8603 1999
Direct Phone 61 3 8603 4973
Direct Fax 61 3 8613 5575
www.pwc.com/au

15 April 2010

Dear Sandra

Modelling issues in the AER's regulatory modelling

Introduction

Brief

I refer to your request for an opinion on whether certain modelling issues that Jemena Gas Networks (JGN) identified with the Australian Energy Regulator's (AER) draft decision amount to errors. I have been provided with a letter from JGN (Sandra Gamble) to the AER (Mike Buckley) dated 3 March 2010 that identified a range of errors. The matters that I have been asked to address are the issues that are labelled as items 2, 3, 9, 10, 11, 13 and 14. In broad terms, these errors relate to:

- whether the AER has correctly interpreted the price level in which the opening regulatory asset base (RAB) was specified when adjusting it for inflation (items 2 and 9);
- the AER's adjustment of capital expenditure over the 2006 to 2010 period for inflation (items 3 and 10);
- whether the AER's omission of 'stock' from the opening RAB is correct (item 11);
- whether the AER has correctly adjusted administrative costs and overheads for inflation (item 13); and
- whether the AER has deducted one-off costs twice (item 14).

Material provided

I have been provided with the following:

- a terms of reference for the task, which is at Attachment 2 to this letter;

Ms Sandra Gamble

15 April 2010

- a letter from JGN (Sandra Gamble) to the AER (Mike Buckley) dated 3 March 2010, which was referred to above;
- a response from the AER (Mike Buckley) to JGN (Sandra Gamble) dated 11 March 2010; and
- 10 excel spreadsheet models, eight of which were described to me as the models that JGN received from the AER and upon which the AER's draft decision is based and two spreadsheet models that contain the entries from the JGN asset register that the AER used as inputs to its analysis.¹

In addition, I have considered:

- The AER draft decision on the JGN access arrangement; and
- The Independent Pricing and Regulatory Tribunal's Final Decision on the current access arrangement for JGN's assets.

Declarations

I confirm that, in preparing this report, I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld. I have been provided with a copy of the Federal Court's 'Guidelines for Expert Witnesses in Proceeding in the Federal Court of Australia' and this report has been prepared in accordance with those Guidelines. I have attached my curriculum vitae to this letter (Attachment 1).

As a professional services firm, PwC has an ongoing relationship with Jemena. This relationship includes advising on matters pertaining to the regulatory review that is the subject of this report. Further details of PwC's relationship with the businesses can be provided if necessary.

¹ The eight AER spreadsheet models are: *JGN asset base roll forward.xls* (151KB); *Gas model 5-7 – FINAL DETERMINATION (28 April 2010)-c-i-c.xls* (2,155KB); *AA10-SR82105d JGN Regulatory Asset Base Roll Forward Model – c-i-c.xls* (936KB); *AA10-SR-82104U JGN Forecast Data Model- c-i-c.xls* (661KB); *AA10-SR-82103F JGN Regulatory Model- c-i-c.xls* (5,280KB), *2010 01 20 - GDR 2010 - Capex designated for opex (D).xls* (29KB); *AA10-SC-05001D JGN Pricing Model - demand and min bill update.xls* (822KB); and *AA10-SR-84101D JGN Tax Asset Base Roll Forward Model- c-i-c.xls* (25,955KB). The two JGN models are: *AA10-CR-09106-10A Aligning Reg FAR with IPART FD2005 Model- v3 (Confidential).xls* (7,785KB); *AA10-CR-091016-14A Escalation Model 2006 v2 (Confidential).xls* (4,054KB).

Ms Sandra Gamble

15 April 2010

Analysis

Framework for analysis

I have been asked to provide an opinion upon whether certain financial modelling matters amount to errors. In addressing this task, I note that there are a number of financial modelling issues where reasonable people can take different positions. In this advice, I have not included such issues as errors.

Items 2 and 9

AER approach

In order to establish a RAB as at the commencement of the new access arrangement period, the AER must update the previously determined RAB. I understand that AER intends to use as the starting point for this analysis the value in JGN's asset register as at the start of 2005-06, which is the same as the value set out in the Independent Pricing and Regulatory Tribunal's Final Decision on JGN's current access arrangement.² I have not addressed the merits of this decision. I note that, in principle, there were different options available for determining the starting point for this analysis; however, as such, it is not within the category of potential errors as I have defined them above.³

The intention of the AER is to establish a RAB at the start of the next regulatory period (1 July 2010), and specified in terms of the purchasing power of money in the previous year (2009/10), or in real 2009/10 terms. I note more specifically that when the AER refers to values being in real 2009/10 that it is referring to the values being consistent with the purchasing power at the end of the 2009/10 financial year. The method the AER intends to adopt for establishing the RAB at the start of the new period is as follows:

² Independent Pricing and Regulatory Tribunal, 2005, Revised Access Arrangement for AGL Gas Networks – Final Decision, April, pp.87-88. The value for the opening RAB that JGN used in its asset register is given by the value as at 30 June 2005 from Table 7.10 (\$1967.6 million), less the value of redundant assets that was removed with effect from the start of the new regulatory period set out in Table 7.14 (\$2.1 million).

³ I also have not addressed whether the legal framework governing the AER's decision provided it with a choice in this matter.

Ms Sandra Gamble

15 April 2010

- *Step 1:* establish the starting RAB, capital expenditure and depreciation amounts in terms of the purchasing power as at the start of the financial year 2005/06.⁴ This is undertaken by reducing the amounts by the relevant inflation index.
- *Step 2:* calculate the RAB for successive years by adding in annual capital expenditure and deducting annual depreciation and disposals. The final element in this calculation is the RAB as at the end of 2009/10; however, at this stage, the RAB is specified in terms of purchasing power as at the start of the 2005/06 year.
- *Step 3:* the last column is then converted into the amount that is needed to preserve the purchasing power of the RAB in terms of the general price level at the end of the 2009/10 financial year. This is undertaken by adjusting the RAB by an appropriate measure of inflation over the period, with five years of inflation required to be applied to the values (there being five years from the start of the 2005/06 financial year to the end of the 2009/10 financial year).⁵

I note that while choices exist as to how to update the RAB over time and adjust for inflation in the process, the method the AER has applied is one that is within a class of reasonable methods (although I consider that it has made an error in applying this method, which is the subject of this and the following errors).

The important aspect of how the AER has applied this method for updating the RAB is how the AER has interpreted the starting point RAB. The starting point RAB was defined as a value as at 1 July 2005. The AER has interpreted this value as if it was the value of the RAB as at 1 July 2005, but specified in terms of the purchasing power of money as at 30 June 2006. The AER has therefore reduced the starting point RAB in step 1 by 3.98 per cent described above in order to specify the RAB in terms of the purchasing power as at 1 July 2005. The 3.98 per cent is the measure of inflation that the AER's model records as the inflation over the financial year 2005/06 that the JGN RAB model applied.

⁴ The AER's spreadsheet refers to these values being specified in real 2004/05 terms. However, this follows the AER's convention when referring to real values for a particular year of referring to the price level at the end that year. As I note further below, the price level at the end of 2004/05 is the same as the price level at the start of 2005/06.

⁵ The AER model actually calculates what is referred to as a nominal value for the RAB for each of the intervening years. However, these calculations express the relevant values in terms of the price level at the end of each of the relevant year. It follows that only the closing RAB in each year is correctly referred to as a nominal value.

Ms Sandra Gamble

15 April 2010

Assessment

The question of importance is whether the AER interpreted correctly the starting point RAB in the JGN asset schedule / IPART final decision. The AER has interpreted this value as being a value as at 1 July 2005, but that this value was specified in terms of the purchasing power of money as at 30 June 2006.

In my view, the AER has made an error in interpreting the meaning of the starting point RAB in the JGN asset schedule / IPART final decision. The calculation that was foreshadowed by IPART and calculated within the JGN asset schedule comprised the following steps:

- a starting point RAB is established; and
- then in each year, capital expenditure is added and depreciation is deducted and the RAB is increased (revalued) by the measure of inflation over the relevant year.⁶

Provided perfectly consistent assumptions are applied, the AER and JGN / IPART methods will deliver identical results.⁷ However, the JGN / IPART methods calculate the RAB at any point in time in *nominal terms*. The reference to nominal terms means that the RAB that is calculated at any point in time is specified in terms of the purchasing power at that point in time. It necessarily follows that the RAB as at 1 July 2005 is specified in terms of the general price level (purchasing power) as at 1 July 2005.

In my view, the AER has made an error when it interpreted the 1 July 2005 RAB as being specified in terms of the general price level as at 30 June 2006.

I note that, on being informed of this error, the AER responded that:⁸

It is unclear to the AER how the opening balance for one year can be the same as the closing balance of the year before (with adjustment) when monetary values are expressed in nominal dollars.

This statement either has been badly expressed or conveys a substantial misunderstanding about the nature of asset values when expressed in nominal terms. It

⁶ Note that Table 7.10 and 7.14 referred to in footnote 1 above both contain a 'revaluation of assets' line item. This is the item that increases the RAB for inflation over the relevant year.

⁷ I note that small differences in results between the two methods often emerge because of the difficulty of obtaining perfect consistency in inputs or assumptions.

⁸ Letter from the AER (Mike Buckley) to JGN (Sandra Gamble), 11 March 2010, p.3.

Ms Sandra Gamble

15 April 2010

can be assumed safely that the general price level will only change by an infinitesimal amount between just prior to midnight on 30 June of any year and just after midnight, which is then 1 July of the following financial year. As inflation is practicably zero from the end of one financial year to the beginning of the next, it follows that the *only* sensible assumption is that the closing value from one financial year is the same as the opening value for the next when those values are specified in nominal terms.

Items 3 and 10

AER approach

The AER's approach for establishing the RAB as at the start of the new regulatory period that was described above applies two adjustments for the capital expenditure that was undertaken during the past regulatory period.

- First, inflation is deducted from the expenditure to establish that expenditure in terms of the purchasing power of money at the start of the period (1 July 2005). This is the effect of Step 1 described above.
- Secondly, the expenditure in real terms as at 1 July 2005 is adjusted for inflation to make it consistent with the purchasing power of money as at 30 June 2010, which is the effect of Step 3 described above. This step in turn can be broken down into two elements, which is to:
 - add back an amount that is necessary to restore the cost of the item to its actual (nominal) cost; and then
 - add on an amount for the change in the general price level after that point in time.

I note that the JGN / IPART method differs in that capital expenditure is included in the RAB at its actual (nominal) cost and then adjusted for movements in the general price level from that point forward. Thus, the JGN / IPART method omits the first step and the first element of the second step above and includes only the second element of the second step.

Of importance to this review is that the AER has used different measures of inflation when deflating the actual capital expenditure costs to be in real 1 July 2005 terms to what has then been used to adjust the value of that expenditure upwards to be consistent with the purchasing power of money as at 30 June 2010.

Ms Sandra Gamble

15 April 2010

Assessment

In my view, the AER's use of a different measure of inflation when deflating the actual capital costs to what it then uses to re-inflate those costs is an error that cannot have a reasoned justification.

The objective of the combination of the deflation and re-inflation steps is to add on measured inflation to the capital expenditure for the period after that expenditure was undertaken – that is, to maintain the value of that expenditure in real terms. However, as the AER's use of a different measure of inflation for the deflation step to what it has used for the re-inflation step means that this objective will not be met.

A simple example will illustrate this outcome. Assume that \$100 is spent in year 1 (which is further assumed to have been spent at the end of the year) and that it was necessary to establish this value in real terms as at the end of year 2 and there is no depreciation of the asset for simplicity. There are two measures of inflation, the first delivers an estimate of the change in the general price level of 5 per cent per annum for each of the years and the second delivers an estimate of 2 per cent per annum for each of the years. If the first inflation measure was used for the deflation step and the second measure for the inflation step, then the value in real terms at the end of year 2 would be calculated as \$99.⁹ However, the correct value would be either \$105 or \$102 depending upon which measure of inflation was used.

The difference in the measures of inflation that were adopted by the AER for the deflation and re-inflation were more subtle than the example above; however, the measures are sufficiently different to deliver material differences in the estimate of the inflation-adjusted value of capital expenditure at the end of the last regulatory period.

The correct approach is to apply the same measure of inflation for the deflation and re-inflation steps. However, which of the measures should be used is a question where reasonable debate occurs and so is not addressed in this report.

⁹ That is, the real value at the end of year 2 = $\$100 \times \frac{(1 + 2\%)^2}{(1 + 5\%)} = \99 .

Ms Sandra Gamble

15 April 2010

Other matters

I have reviewed the other three matters I described above where JGN has indicated to the AER that JGN considered an error had been made. I agree with JGN that these matters appear to amount to simple modelling errors.

- *Treatment of stock* – I note that the AER calculates how the RAB should be updated from the starting value (as at the start of financial year 2005/06) to the value just prior to the next regulatory period (that is, as at the end of financial year 2009/10) in the model entitled 'JGN asset base roll forward.xls model' (the first model). These results are inserted without significant further calculation into the model entitled 'AA10-SR82105d JGN Regulatory Asset Base Roll Forward Model – c-i-c.xls' (the second model). These closing values from this latter model (i.e., as at the end of 2009/10) are then imported as the starting point for the RAB for the next regulatory period into the model entitled 'AA10-SR-82103F JGN Regulatory Model- c-i-c.xls' (the third model). I confirm that a value for 'stock' at the end of financial year 2009/10 was calculated in the first model and was carried over into the second model, but was not carried over into the third model. This is an error.

I note that the AER has stated that its assumption that no residual value should apply to stock is based upon a comment included in one of the original JGN models.¹⁰ I have not reviewed the original calculations that were performed by JGN; however I note that this would be irrelevant in any case. The prices the AER determined in its draft decision reflect its own calculations, and it is evident from those calculations that there was a remaining value for stock at the end of financial year 2009/10.

- *Escalation of administrative costs and overheads* – I agree that the AER has not properly escalated the escalation component of administrative costs and overheads. In particular the 'Draft Decisions Tables' sheet in the model entitled 'AA10-SR-82104U JGN Forecast Data Model- c-i-c.xls' assumes that all values in that sheet are specified in real 2009/10 terms. However, cells I47:M47 refer to amounts from the 'Opex Forecast' sheet that are specified in real 2007/08 terms.¹¹ This is an error.

¹⁰ Letter from the AER (Mike Buckley) to JGN (Sandra Gamble), 11 March 2010, p.4.

¹¹ The escalation amounts refer back to three categories of costs (corporate, other direct and commercial group). If the first year of the latter is used as an example, cell I47 from the 'Draft Decisions Table' sheet references cell N83 from the 'Opex Forecast' sheet, which references cell I186 from the 'Inputs Sheet', which is labelled as being in real 2007/08 expenditure. This is confirmed by noting that cell I186 is equated to cell G186, which in turn is equal to a hard coded

Ms Sandra Gamble

15 April 2010

- *Adjustments to one-off costs* – I agree that the AER has made an error by deducting twice the once off costs associated with the enterprise support function (ESF) that Jemena provides to JAM (and which JAM, in turn, recovers from JGN and its other clients – these are referred to in the models as ESF's via JAM (Secondary Allocation)). The AER's clear intention for this cost item is to commence with a figure that reflects the actual cost for this item in a base year (cell G26 in the 'Draft Decisions Tables' sheet) and then to deduct once off costs associated with the item (cell G27 in the same sheet, which references cell G362 in the 'Inputs sheet'). However, the base year costs that it commences with (cell G26 in the 'Draft Decisions Tables' sheet) is already net of these once off costs.¹² Accordingly, the AER has removed these once off costs from the base year costs twice. This is an error.

12

amount that is labelled as being in real 2008/09 terms that then has one year of inflation removed to convert it to an amount in real 2007/08 terms.

A number of links need to be investigated to arrive at this conclusion. In particular: cell G:26 from the 'Draft Decisions Tables' sheet references cell L179 from the 'Opex Forecast' sheet, which references cell L58 from the same sheet, which references cell L54 from the same sheet, which references cell L16 from the same sheet, which references cell G177 from the 'Inputs' sheet, which references cell G144 from the same sheet, which references cell G129 from the same sheet, which is a value that commences with a hard-coded number that is referred to as the ESF's via JAM (Secondary Allocation) in cell G355 and deducts (amongst other things) the one-off costs associated with the ESF's via JAM (Secondary Allocation) in cell G362. Thus, the allowance for ESF's via JAM (Secondary Allocation) that is incorporated into the 'Draft Decisions Tables' sheet is already net of the one-off costs associated with ESF's via JAM (Secondary Allocation).

Ms Sandra Gamble
15 April 2010

* * *

If you would like to discuss this matter further, please do not hesitate to contact me (03 8603 4973).

Yours sincerely



Jeff Balchin
Executive Director
Advisory

PricewaterhouseCoopers is committed to providing our clients with the very best service. We would appreciate your feedback or suggestions for improvement. You can provide this feedback by talking to your engagement partner, calling us within Australia on 1300 792 111 or visiting our website <http://www.pwcfeedback.com.au/>

Ms Sandra Gamble
15 April 2010

Attachment 1

Curriculum Vitae

Ms Sandra Gamble

15 April 2010

Jeff Balchin

Executive Director (Economics)

Summary of Experience

Jeff is an Economist and Executive Director in the PwC Economics team. Prior to this Jeff was a Director with the Allen Consulting Group, where he built a consulting practice with a strong specialisation in the economic regulation of price and service, with a particular emphasis on the application of incentive regulation to infrastructure and network industries.

Jeff has experience across the electricity, gas, airports, rail, ports, water, telecommunications, post and banking industries in Australia and New Zealand. He has advised governments, regulators and major corporations on issues including regulatory price reviews, licensing and franchise bidding, market design and development of regulatory frameworks. Jeff has also undertaken a number of expert witness assignments. His experience is outlined below in more detail.

Qualifications

- B.Ec. (Hons.) at the University of Adelaide (First Class Honours)
- CEDA National Prize for Economic Development

Previous Experience

Prior becoming a consultant, Jeff held a number of policy positions in the Commonwealth Government.

- **Commonwealth representative on the secretariat of the Gas Reform Task Force** (1995-1996) - Played a lead role in the development of a National Code for third party access to gas transportation systems, with a particular focus on market regulation and pricing.
- **Infrastructure, Resources and Environment Division, Department of the Prime Minister and Cabinet** (1994-1995) - Played a key role in the creation of the Gas Reform Task Force (a body charged with implementing national gas reform that reports to the Heads of Government). During this time he also had responsibility for advising on primary industries, petroleum and mining industry issues, infrastructure issues, government business enterprise reform and privatisation issues.

Ms Sandra Gamble

15 April 2010

- **Structural Policy Division, Department of the Treasury (1992-94).** Worked on environment policy issues in the lead up to the UN Conference on Environment and Development at Rio de Janeiro, as well as electricity and gas reform issues.

Experience – Economic Regulation of Price and Service

Periodic Price Reviews – Major Roles for Regulators

- **ACT regulated retail electricity price review (Client: Independent Competition and Regulatory Commission, ACT, 2009)** – Directing a team that is developing a method to derive a benchmark cost of purchasing wholesale electricity for a retail business that is subject to a regulated price but exposed to competition.
- **South Australian default gas retail price review (Client: the Essential Services Commission, SA, 2007-2008)** - Directed a team that derived estimates of the benchmark operating costs for a gas retailer and the margin that should be allowed. This latter exercise included a bottom-up estimate of the financing costs incurred by a gas retail business.
- **South Australian default electricity retail price review (Client: the Essential Services Commission, SA, 2007)** -Directed a team that estimated the wholesale electricity purchase cost for the default electricity retail supplier in South Australia. The project involved the development of a model for deriving an optimal portfolio of hedging contracts for a prudent and efficient retailer, and the estimate of the expected cost incurred with that portfolio. Applying the principles of modern finance theory to resolve issues of how the compensation for certain risk should be quantified was also a central part of the project.
- **South Australian default gas retail price review (Client: the Essential Services Commission, SA, 2005)** - As part of a team, advised the regulator on the cost of purchasing gas transmission services for a prudent and efficient SA gas retailer, where the transmission options included the use of the Moomba-Adelaide Pipeline and SEAGas Pipeline, connecting a number of gas production sources.
- **Victorian Gas Distribution Price Review (Client: the Essential Services Commission, Vic, 2006-2008)** - Provided advice to the Essential Service Commission in relation to its review of gas distribution access arrangements on the treatment of outsourcing arrangements, finance issues, incentive design and other economic issues.
- **Envestra Gas Distribution Price Review (Client: the Essential Services Commission, SA, 2006)** - Provided advice on several finance related issues (including 'return on assets' issues

Ms Sandra Gamble

15 April 2010

and the financial effect of Envestra's invoicing policy), and the treatment of major outsourcing contracts when setting regulated charges.

- **Victorian Electricity Distribution Price Review (Client: the Essential Services Commission, Vic, 2003-2005)** - Provided advice to the Essential Service Commission on a range of economic issues related to current review of electricity distribution charges, including issues related to finance, forecasting of expenditure and the design of incentive arrangements for productive efficiency and service delivery. Was a member of the Steering Committee advising on strategic regulatory issues.
- **Victorian Water Price Review (Client: the Essential Services Commission, Vic, 2003-2005)** - Provided advice to the Essential Services Commission on the issues associated with extending economic regulation to the various elements of the Victorian water sector. Was a member of the Steering Committee advising on strategic regulatory issues, and also provided advice on specific issues, most notably the determination of the initial regulatory values for the water businesses and the role of developer charges.
- **ETSA Electricity Distribution Price Review (Client: the Essential Services Commission, SA, 2002-2005)** - Provided advice on the 'return on assets' issues associated with the review of ETSA's regulated distribution charges, including the preparation of consultation papers. The issues covered include the valuation of assets for regulatory purposes and cost of capital issues. Also engaged as a quality assurance adviser on other consultation papers produced as part of the price review.
- **Victorian Gas Distribution Price Review (Client: the Essential Services Commission, Vic, 2001-2002)** - Economic adviser to the Essential Services Commission during its assessment of the price caps and other terms and conditions of access for the three Victorian gas distributors. Was responsible for all issues associated with capital financing (including analysis of the cost of capital and assessment of risk generally, and asset valuation), and supervised the financial modelling and derivation of regulated charges. Also advised on a number of other issues, including the design of incentive arrangements, the form of regulation for extensions to unreticulated townships, and the principles for determining charges for new customers connecting to the system. Represented the Commission at numerous public forums during the course of the review, and was the principal author of the finance-related and other relevant sections of the four consultation papers and the draft and final decisions.
- **ETSA Electricity Distribution Price Review (Client: the South Australian Independent Industry Regulator, 2000-2001)** - As part of a team, prepared a series of reports proposing a framework for the review. The particular focus was on the design of incentives to encourage

Ms Sandra Gamble

15 April 2010

cost reduction and service improvement, and how such incentives can assist the regulator to meet its statutory obligations. Currently retained to provide commentary on the consultation papers being produced by the regulator, including strategic or detailed advice as appropriate.

- **Dampier to Bunbury Natural Gas Pipeline Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 2000-2002)** - Provided economic advice to the Office of the Independent Regulator during its continuing assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft decision, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Represented the Office on these matters at a public forum, and provided strategic advice to the Independent Regulator on the draft decision.
- **Goldfield Gas Pipeline Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 2000-2004)** - Provided economic advice to the Office of the Independent Regulator during its continuing assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft decision, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Represented the Office on these matters at a public forum, and provided strategic advice to the Independent Regulator on the draft decision.
- **Victorian Electricity Distribution Price Review (Client: the Office of the Regulator-General, Vic, 1999-2000)** - Economic adviser to the Office of the Regulator-General during its review of the price caps for the five Victorian electricity distributors. Had responsibility for all issues associated with capital financing, including analysis of the cost of capital (and assessment of risk generally) and asset valuation, and supervised the financial modelling and derivation of regulated charges. Also advised on a range of other issues, including the design of incentive regulation for cost reduction and service improvement, and the principles for determining charges for new customers connecting to the system. Represented the Office at numerous public forums during the course of the review, and was principal author of the finance-related sections of three consultation papers, and the finance-related sections of the draft and final decision documents.
- **Victorian Ports Corporation and Channels Authority Price Review (Client: the Office of the Regulator-General, Vic, 2000)** - Advised on the finance-related issues (cost of capital and the assessment of risk generally, and asset valuation), financial modelling (and the derivation of regulated charges), and on the form of control set over prices. Principal author of the

Ms Sandra Gamble

15 April 2010

sections of the draft and final decision documents addressing the finance-related and price control issues.

- **AlintaGas Gas Distribution Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 1999-2000)** - Provided economic advice to the Office of the Independent Regulator during its assessment of the regulated charges and other terms and conditions of access for the gas pipeline. This advice included providing a report assessing the cost of capital associated with the regulated activities, overall review of all parts of the draft and final decisions, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Also provided strategic advice to the Independent Regulator on the draft and final decisions.
- **Parmelia Gas Pipeline Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 1999-2000)** - Provided economic advice to the Office of the Independent Regulator during its assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft and final decisions, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Also provided strategic advice to the Independent Regulator on the draft and final decisions.
- **Victorian Gas Distribution Price Review (Client: the Office of the Regulator-General, Vic, 1998)** - Economic adviser to the Office of the Regulator-General during its assessment of the price caps and other terms and conditions of access for the three Victorian gas distributors. Major issues addressed included the valuation of assets for regulatory purposes, cost of capital financing and financial modelling. Principal author of the draft and final decision documents.

Periodic and Other Price Reviews – Other Activities

- **Input methodologies for NZ regulated businesses (Clients: Powerco NZ and Christchurch International Airport, 2009-ongoing)** – advising in relation to the Commerce Commission's development of input methodologies and related matters, covering issues associated with regulatory asset valuation, the regulatory cost of capital, the use of productivity trends in regulation and the design of incentive-compatible regulation.
- **Equity Betas for Regulated Electricity Transmission Activities (Client: Grid Australia, APIA, ENA, 2008)** - Prepared a report presenting empirical evidence on the equity betas for regulated Australian electricity transmission and distribution businesses for the AER's five yearly review of WACC parameters for these industries. The report demonstrated the implications of a number of different estimation techniques and the reliability of the resulting

Ms Sandra Gamble

15 April 2010

estimates. Also prepared a joint paper with the law firm, Gilbert+Tobin, providing an economic and legal interpretation of the relevant (unique) statutory guidance for the review.

- **Economic Principles for the Setting of Airside Charges (Client: Christchurch International Airport Limited, 2008-2009)** - Provided advice on a range of economic issues relating to its resetting of charges for airside services, including the valuation of assets and treatment of revaluations, certain inputs to the cost of capital (beta and the debt margin) and the efficiency of prices over time and the implications for the depreciation of assets and measured accounting profit.
- **Treatment of Inflation and Depreciation when Setting Landing Charges (Client: Virgin Blue, 2007-2008)** - Provided advice on Adelaide Airport's proposed approach for setting landing charges for Adelaide Airport, where a key issue was how it proposed to deal with inflation and the implications for the path of prices over time. The advice also addressed the different formulae that are available for deriving an annual revenue requirement and the requirements for the different formulae to be applied consistently.
- **Application of the Grid Investment Test to the Auckland 400kV Upgrade (Client: Electricity Commission of New Zealand, 2006)** - As part of a team, undertook a review of the Commission's process for reviewing Transpower's proposed Auckland 400kV upgrade project and undertook a peer review of the Commission's application of the Grid Investment Test.
- **Appropriate Treatment of Taxation when Measuring Regulatory Profit (Client: Powerco New Zealand, 2005-2006)** - Prepared two statements for Powerco New Zealand related to how the Commerce Commission should treat taxation when measuring realised and projected regulatory profit for its gas distribution business (measured regulatory profit, in turn, was a key input into the Commission's advice to the Minister as to whether there would be net benefits from regulating Powerco New Zealand's gas distribution business). A key finding was that care must be taken to ensure that the inputs used when calculating taxation expenses are consistent with the other 'assumptions' that a regulator adopts if it applies incentive regulation (most notably, a need for consistency between assumed tax depreciation and the regulatory asset value).
- **Application of Directlink for Regulated Status (Client: Directlink, 2003-2004)** - Prepared advice on the economic issues associated with the Directlink Joint Venture's request to be converted from an unregulated (entrepreneurial) interconnector to a regulated interconnector. As with the Murraylink application, the key issues included the implications for economic efficiency flowing from its application and the appropriate application of a cost benefit test for

Ms Sandra Gamble

15 April 2010

transmission investment (and the implications of that test for the setting of the regulatory value for its asset).

- **Principles for the 'Stranding' of Assets by Regulators (Client: the Independent Pricing and Regulatory Tribunal, NSW, 2005)** - Prepared a report discussing the relevant economic principles for a regulator in deciding whether to 'strand' assets for regulatory purposes (that is, to deny any further return on assets that are partially or unutilised). An important conclusion of the advice is that the benefits of stranding need to be assessed with reference to how future decisions of the regulated entities are affected by the policy (i.e. future investment and pricing decisions), and that the uncertainty created from 'stranding' creates real costs.
- **Principles for Determining Regulatory Depreciation Allowances (Client: the Independent Pricing and Regulatory Tribunal, NSW, 2003)** - Prepared a report discussing the relevant economic and other principles for determining depreciation for the purpose of price regulation, and its application to electricity distribution. An important issue addressed was the distinction between accounting and regulatory (economic) objectives for depreciation.
- **Methodology for Updating the Regulatory Value of Electricity Transmission Assets (Client: the Australian Competition and Consumer Commission, 2003)** - Prepared a report assessing the relative merits of two options for updating the regulatory value of electricity transmission assets at a price review - which are to reset the value at the estimated 'depreciated optimised replacement cost' value, or to take the previous regulatory value and deduct depreciation and add the capital expenditure undertaken during the intervening period (the 'rolling-forward' method). This paper was commissioned as part of the ACCC's review of its Draft Statement of Regulatory Principles for electricity transmission regulation.
- **Application of Murraylink for Regulated Status (Client: Murraylink Transmission Company, 2003)** - Prepared advice on the economic issues associated with Murraylink Transmission Company's request to be converted from an unregulated (entrepreneurial) interconnector to a regulated interconnector. The key issues included the implications for economic efficiency flowing from its application and the appropriate application of a cost benefit test for transmission investment (and the implications of that test for the setting of the regulatory value for its asset).
- **Proxy Beta for Regulated Gas Transmission Activities (Client: the Australian Competition and Consumer Commission, 2002)** - Prepared a report presenting the available empirical evidence on the 'beta' (which is a measure of risk) of regulated gas transmission activities. This evidence included beta estimates for listed firms in Australia, as well as those from the United States, Canada and the United Kingdom. The report also included a discussion

Ms Sandra Gamble

15 April 2010

of empirical issues associated with estimating betas, and issues to be considered when using such estimates as an input into setting regulated charges.

- **Treatment of Working Capital when setting Regulated Charges (Client: the Australian Competition and Consumer Commission, 2002)** - Prepared a report assessing whether it would be appropriate to include an explicit (additional) allowance in the benchmark revenue requirement in respect of working capital when setting regulated charges.
- **Pricing Principles for the South West Pipeline (Client: Esso Australia, 2001)** - As part of a team, prepared a report (which was submitted to the Australian Competition and Consumer Commission) describing the pricing principles that should apply to the South West Pipeline (this pipeline was a new asset, linking the existing system to a new storage facility and additional gas producers).
- **Relevance of 'September 11' for the Risk Free Rate (Client: the Australian Competition and Consumer Commission, 2001)** - Prepared a report assessing the relevance (if any) of the events of September 11 for the proxy 'risk free rate' that is included in the Capital Asset Pricing Model (this is a model, drawn from finance theory, for estimating the required return for a particular asset).
- **Victorian Government Review of Water Prices (Client: the Department of Natural Resources and the Environment, Vic, 2000-2001)** - Prepared a report discussing the principles regulators use to determine the capital related cost (including reasonable profit) associated with providing utility services, and how those principles would apply to the water industry in particular. The report also provided an estimate of the cost of capital (and assessment of risk in general) associated with providing water services. The findings of the report were presented to a forum of representatives of the Victorian water industry.
- **Likely Regulatory Outcome for the Price for Using a Port (Client: MIM, 2000)** - Provided advice on the outcome that could be expected were the dispute over the price for the use of a major port to be resolved by an economic regulator. The main issue of contention was the valuation of the port assets (for regulatory purposes) given that the installed infrastructure was excess to requirements, and the mine had a short remaining life.
- **Relevance of 'Asymmetric Events' in the Setting of Regulated Charges (Client: TransGrid, 1999)** - In conjunction with William M Mercer, prepared a report (which was submitted to the Australian Competition and Consumer Commission) discussing the relevance of downside (asymmetric) events when setting regulated charges, and quantifying the expected cost of those events.

Ms Sandra Gamble

15 April 2010

Licencing / Franchise Bidding

- **Competitive Tender for Gas Distribution and Retail in Tasmania (Client: the Office of the Tasmanian Energy Regulator, 2001-2002)** - Economic adviser to the Office during its continuing oversight of the use of a competitive tender process to select a gas distributor/retailer for Tasmania, and simultaneously to set the regulated charges for an initial period. The main issues concern how the tender rules, process and future regulatory framework should be designed to maximise the scope for 'competition for the market' to discipline the price and service offerings. Principal author of a number of sections of a consultation paper, and the regulator's first decision document.
- **Issuing of a Licence for Powercor Australia to Distribute Electricity in the Docklands (Client: the Office of the Regulator General, Vic, 1999)** - Economic adviser to the Office during its assessment of whether a second distribution licence should be awarded for electricity distribution in the Docklands area (a distribution licence for the area was already held by CitiPower, and at that time, no area in the state had multiple licensees). The main issue concerned the scope for using 'competition for the market' to discipline the price and service offerings for an activity that would be a monopoly once the assets were installed. Contributed to a consultation paper, and was principal author of the draft and final decision documents.

Market Design

- **Options for the Development of the Australian Gas Wholesale Market (Client: the Ministerial Committee on Energy, 2005)** - As part of a team, assessed the relative merits of various options for enhancing the operation of the Australian gas wholesale markets, including by further dissemination of information (through the creation of bulletin boards) and the management of retailer imbalances and creation of price transparency (by creating short term trading markets for gas).
- **Review of the Victorian Gas Market (Client: the Australian Gas Users Group, 2000-2001)** - As part of a team, reviewed the merits (or otherwise) of the Victorian gas market. The main issues of contention included the costs associated with operating a centralised market compared to the potential benefits, and the potential long term cost associated with having a non commercial system operator.
- **Development of the Market and System Operation Rules for the Victorian Gas Market (Client: Gas and Fuel Corporation, 1996)** - Assisted with the design of the 'market rules' for the Victorian gas market. The objective of the market rules was to create a spot market for

Ms Sandra Gamble

15 April 2010

trading in gas during a particular day, and to use that market to facilitate the efficient operation of the system.

Development of Regulatory Frameworks

- **Implications of greenhouse policy for the electricity and gas regulatory frameworks (Client: the Australian Energy Market Commission, 2008-2009)** – Provided advice to the AEMC in its review of whether changes to the electricity and gas regulatory frameworks is warranted in light of the proposed introduction of a carbon permit trading scheme and an expanded renewables obligation. Issues addressed include the framework for electricity connections, the efficiency of the management of congestion and locational signals for generators and the appropriate specification of a cost benefit test for transmission upgrades in light of the two policy initiatives.
- **Application of a ‘total factor productivity’ form of regulation (Client: the Victorian Department of Primary Industries, 2008)** - Assisted the Department to develop a proposed amendment to the regulatory regime for electricity regulation to permit (but not mandate) a total factor productivity approach to setting price caps – that is, to reset prices to cost at the start of the new regulatory period and to use total factor productivity as an input to set the rate of change in prices over the period.
- **Expert Panel on Energy Access Pricing (Client: Ministerial Council on Energy, 2005-2006)** - Assisted the Expert Panel in its review of the appropriate scope for commonality of access pricing regulation across the electricity and gas, transmission and distribution sectors. The report recommended best practice approaches to the appropriate forms of regulation, the principles to guide the development of detailed regulatory rules and regulatory assessments, the procedures for the conduct of regulatory reviews and information gathering powers.
- **Productivity Commission Review of Airport Pricing (Client: Virgin Blue, 2006)** - Prepared two reports for Virgin Blue for submission to the Commission’s review, addressing the economic interpretation of the review principles, asset valuation, required rates of return for airports and the efficiency effects of airport charges and presented the findings to a public forum.
- **AEMC Review of the Rules for Setting Transmission Prices (Client: Transmission Network Owners, 2005-2006)** - Advised a coalition comprising all of the major electricity transmission network owners during the new Australian Energy Market Commission’s review of the rules under which transmission prices are determined. Prepared advice on a number of issues and assisted the owners to draft their submissions to the AEMC’s various papers.

Ms Sandra Gamble

15 April 2010

- **Advice on Energy Policy Reform Issues (Client: Victorian Department of Infrastructure/Primary Industries, 2003-ongoing)** - Ongoing advice to the Department regarding on issues relating to national energy market reform. Key areas covered include: reform of cross ownership rules for the energy sector; the reform of the cost benefit test for electricity transmission investments; and the reform of the gas access arrangements (in particular, the scope for introducing more light handed forms of regulation); and the transition of the Victorian electricity transmission arrangements and gas market into the national regulatory regime.
- **Productivity Commission Review of the National Gas Code (Client: BHPBilliton, 2003-2004)** - Produced two submissions to the review, with the important issues including the appropriate form of regulation for the monopoly gas transmission assets (including the role of incentive regulation), the requirement for ring fencing arrangements, and the presentation of evidence on the impact of regulation on the industry since the introduction of the Code. The evidence presented included a detailed empirical study of the evidence provided by the market values of regulated entities for the question of whether regulators are setting prices that are too low.
- **Framework for the Regulation of Service Quality (Client: Western Power, 2002)** - Prepared two reports advising on the framework for the regulation of product and service quality for electricity distribution, with a particular focus on the use of economic incentives to optimise quality and the implications for the coordination of service regulation coordinated with distribution tariff regulation.
- **Development of the National Third Party Access Code for Natural Gas Pipeline Systems Code (Client: commenced while a Commonwealth Public Servant, after 1996 the Commonwealth Government, 1994-1997)** - Was involved in the development of the Gas Code (which is the legal framework for the economic regulation of gas transmission and distribution systems) from the time of the agreement between governments to implement access regulation, through to the signing of the intergovernmental agreements and the passage of the relevant legislation by the State and Commonwealth parliaments. Major issues of contention included the overall form of regulation to apply to the infrastructure (including the principles and processes for establishing whether an asset should be regulated), pricing principles (including the valuation of assets for regulatory purposes and the use of incentive regulation), ring fencing arrangements between monopoly and potentially contestable activities, and the disclosure of information. Was the principal author of numerous issues papers for the various government and industry working groups, public discussion papers, and sections of the Gas Code.

Ms Sandra Gamble

15 April 2010

Other Finance Work

- **Private Port Development (Client: Major Australian Bank, 2008)** - Prepared a report on the relative merits of different governance and financing arrangements for a proposed major port development that would serve multiple port users.
- **Review of Capital Structure (Client: major Victorian water entity, 2003)** - Prepared a report (for the Board) advising on the optimal capital structure for a particular Victorian water entity. The report advised on the practical implications of the theory on optimal capital structure, presented benchmarking results for comparable entities, and presented the results of detailed modelling of the risk implications of different capital structures. Important issues for the exercise were the implications of continued government ownership and the impending economic regulation by the Victorian Essential Services Commission for the choice of – and transition to – the optimal capital structure.

Expert Witness Roles

- **Victorian gas market pricing dispute – dispute resolution panel (Client: VENCORP, 2008)** – Prepared a report and was cross examined in relation to the operation of the Victorian gas market in the presence of supply outages.
- **Consultation on Major Airport Capital Expenditure – Judicial Review (Client: Christchurch International Airport, 2008)** - Prepared an affidavit for a judicial review on whether the airport consulted appropriately on its proposed terminal development. Addressed the rationale, from the point of view of economics, of separating the decision of ‘what to build’ from the question of ‘how to price’ in relation to new infrastructure.
- **New Zealand Commerce Commission Draft Decision on Gas Distribution Charges (Client: Powerco, 2007-2008)** - Prepared an expert statement about the valuation of assets for regulatory purposes, with a focus on the treatment of revaluation gains, and a memorandum about the treatment of taxation for regulatory purposes and appeared before the Commerce Commission.
- **Sydney Airport Domestic Landing Change Arbitration (Client: Virgin Blue, 2007)** - Prepared two expert reports on the economic issues associated with the structure of landing charges (note: the evidence was filed, but the parties reached agreement before the case was heard).

Ms Sandra Gamble

15 April 2010

- **New Zealand Commerce Commission Gas Price Control Decision – Judicial Review (Client: Powerco, 2006)** - Provided four affidavits on the regulatory economic issues associated with the calculation of the allowance for taxation for a regulatory purpose, addressing in particular the need for consistency in assumptions across different regulatory calculations.
- **Victorian Electricity Distribution Price Review – Appeal to the ESC Appeal Panel: Service Incentive Risk (Client: the Essential Services Commission, Vic, 2005-2006)** - Prepared expert evidence on the workings of the ESC's service incentive scheme and the question of whether the scheme was likely to deliver a windfall gain or loss to the distributors (note: the evidence was filed, but the appellant withdrew this ground of appeal prior to the case being heard).
- **Victorian Electricity Distribution Price Review – Appeal to the ESC Appeal Panel: Price Rebalancing (Client: the Essential Services Commission, Vic, 2005-2006)** - Prepared expert evidence on the workings of the ESC's tariff basket form of price control, with a particular focus on the ability of the electricity distributors to rebalance prices and the financial effect of the introduction of 'time of use' prices in this context (note: the evidence was filed, but the appellant withdrew this ground of appeal prior to the case being heard).
- **New Zealand Commerce Commission Review of Information Provision and Asset Valuation (Client: Powerco New Zealand, 2005)** - Appeared before the Commerce Commission for Powerco New Zealand on several matters related to the appropriate measurement of profit for regulatory purposes related to its electricity distribution business, most notably the treatment of taxation in the context of an incentive regulation regime.
- **Duke Gas Pipeline (Qld) Access Arrangement Review – Appeal to the Australian Competition Tribunal (Client: the Australia Competition and Consumer Commission, 2002)** - Prepared expert evidence on the question of whether concerns of economic efficiency are relevant to the non price terms and conditions of access (note: the evidence was not filed as the appellant withdrew its evidence prior to the case being heard).
- **Victorian Electricity Distribution Price Review – Appeal to the ORG Appeal Panel: Rural Risk (Client: the Office of the Regulator General, Vic, 2000)** - Provided expert evidence (written and oral) to the ORG Appeal Panel on the question of whether the distribution of electricity in the predominantly rural areas carried greater risk than the distribution of electricity in the predominantly urban areas.

Ms Sandra Gamble
15 April 2010

- **Victorian Electricity Distribution Price Review – Appeal to the ORG Appeal Panel: Inflation Risk (Client: the Office of the Regulator General, Vic, 2000)** - Provided expert evidence (written and oral) to the ORG Appeal Panel on the implications of inflation risk for the cost of capital associated with the distribution activities.
- **Major Coal Producers and Ports Corporation of Queensland Access Negotiation (Client: Pacific Coal, 1999)** - Provided advice to the coal producers on the outcome that could be expected were the dispute over the price for the use of a major port to be resolved by an economic regulator. The main issues of contention were the valuation of the assets for regulatory purposes, whether the original users of the port should be given credit for the share of the infrastructure they financed, and the cost of capital (and assessment of risk generally). Presented the findings to a negotiation session between the parties.

Ms Sandra Gamble
15 April 2010

Attachment 2

Terms of Reference

**JEMENA GAS NETWORKS (NSW)
ACCESS ARRANGEMENT 2010**

ASSET & PROJECT

**EXPERT TERMS OF REFERENCE –
AER MODELLING ERRORS**

DOCUMENT TITLE

AA10-SR-82722B

DOCUMENT NUMBER

1 BACKGROUND

Jemena Gas Networks (JGN) is the major gas distribution service provider in New South Wales (NSW). JGN owns 24,000 kilometres of natural gas distribution system, delivering approximately 100 petajoules of natural gas to over one million homes, businesses and large industrial consumers across NSW. Jemena Asset Management (JAM) undertakes the majority of JGN's operating, maintenance, and capital works activity.

The relevant provisions relating to the economic regulation of natural gas distribution networks in NSW are set out in the National Gas Law and National Gas Rules, which are available at <http://www.aemc.gov.au/Gas/National-Gas-Rules/Current-Rules.html>.

JGN is currently engaged with the Australian Energy Regulator (AER) in the AER's review of its Access Arrangement (AA). JGN submitted a revised AA in August 2009 which, if approved, will cover the period 2010/11-2014/15 (July to June financial years).

Under the National Gas Rules, total revenue for a relevant service provider is determined for each regulatory year of the access arrangement using a "building blocks" methodology (Rule 76). The building blocks include, amongst others, a return on the projected capital base for the year (Subrule 76(a)).

Under the National Gas Law (section 28), in making a decision on whether to approve Jemena's AA proposal, the AER must have regard to the National Gas Objective (in section 23 of the National Gas Law), which 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."

The AER may also take into account the pricing principles in section 24(2) of the National Gas Law, and must do so when considering whether to approve a reference tariff:

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.

On 10 February 2010 the AER published its draft decision on JGN's AA revision proposal.¹ JGN submitted its revised proposal to the AER on 19 March 2010.² Public submissions on the AER's draft decision close on 28 April 2010.

On 3 March 2010 JGN sent a letter to the AER identifying a number of errors in the AER's draft decision, including in the models relied on for this decision.³ The AER responded to this letter on 11 March 2010.⁴

¹ Australian Energy Regulator, *Draft decision, Jemena, Access arrangement proposal for the NSW gas networks*, 1 July 2010 – 30 June 2015 (**draft decision**), February 2010, can be found at <http://www.aer.gov.au/content/index.phtml/itemId/730676>.

² Jemena Gas Networks, *Initial response to draft decision*, 19 March 2009, can be found at <http://www.aer.gov.au/content/index.phtml/itemId/735202>.

Accordingly, JGN is seeking the opinion of a recognised independent expert to confirm or not whether the errors identified by JGN are in fact errors.

2 SCOPE OF WORK

The independent expert will provide an opinion letter indicating whether the expert agrees or disagrees with JGN's position as to a number of matters that JGN considers are errors in the AER's draft decision. The matters that JGN considers are errors in the AER's draft decision, and in relation to which the expert's opinion is sought, are as follows and are set out in JGN's letter to the AER of 3 March 2010:

1. items 2 and 3, which relate to the treatment of JGN's regulatory asset base in the AER draft decision;
2. items 9 though 14, which relate to the models relied on by the AER for its draft decision.

3 INFORMATION FROM JGN

JGN will make the following information available to the expert:

- the public version of the AER's draft decision;
- JGN's letter to the AER identifying the errors, sent on 3 March 2010;
- the AER's response to JGN's letter, sent on 11 March 2010;
- the models relied upon by the AER for its draft decision.⁵

Should the expert require any further information to prepare the opinion letter, the expert should notify JGN of this and JGN will, where possible, provide this information.

³ Sandra Gamble (JGN), *Letter to Mike Buckley (AER) – JGN access arrangement revision proposal: Notification of identified AER errors in draft decision*, (the **JGN letter**), 3 March 2010.

⁴ Mike Buckley (AER), *Letter to Sandra Gamble (JGN) – References in the draft decision to errors in JGN's proposed access arrangement revisions and the AER's errors in the draft decision*, (the **AER letter**), 11 March 2010.

⁵ In particular, the following models:

- '2010 01 20 - GDR 2010 - Capex designated for opex (D).xls',
- 'AA10-SC-05001D JGN Pricing Model - demand and min bill update.xls',
- 'AA10-SR-82103F JGN Regulatory Model- c-i-c.xls',
- 'AA10-SR-82104U JGN Forecast Data Model- c-i-c.xls'
- 'AA10-SR-82105D JGN Regulatory Asset Base Roll Forward Model- c-i-c.xls',
- 'AA10-SR-84101D JGN Tax Asset Base Roll Forward Model- c-i-c.xls',
- 'Gas model 5-7 - FINAL DETERMINATION (28 April 2005)-c-i-c.xls',
- 'JGN asset base roll forward.xls',
- 'AA10-CR-091016-14A Escalation Model 2006 v2 (Confidential).xls', and
- 'AA10-CR-09106-10A Aligning Reg FAR with IPART FD2005 Model- v3 (Confidential).xls'.

4 OTHER INFORMATION TO BE CONSIDERED

The expert is also expected to draw upon the following additional information:

- the National Gas Law and the National Gas Rules in relation to the economic regulation of gas networks;
- the National Electricity Law and National Electricity Rules in relation to the economic regulation of electricity networks;
- the AER's recent regulatory decisions;
- such information that, in expert's opinion, should be taken into account to address the questions outlined above.

5 DELIVERABLES

At the completion of its review the expert will provide an independent expert opinion which:

- is of a professional standard capable of being submitted to the AER;
- is prepared in accordance with the Federal Court Guidelines for Expert Witnesses set out in Attachment 1 and acknowledges that the expert has read the guidelines and has prepared the report in accordance with these guidelines⁶;
- attaches relevant curriculum vitae;
- identifies any person and their qualifications, who assists in the preparation of the report or in carrying out any research or test for the purposes of the report;
- provides or makes available copies of all citations relied upon in the preparation of the report;
- summarises JGN's instructions and attaches these term of reference; and
- (without limiting the points above) carefully sets out the facts that the expert has assumed in putting together his or her report and the basis for those assumptions.

The expert report will include the findings for each of the two parts defined in the scope of works (Section 2).

6 TIMETABLE

The independent expert will deliver the final report to JGN by **14 April 2010**. The full list of deliverables and their due dates are shown in the table below.

⁶ Available at: http://www.fedcourt.gov.au/how/prac_direction.html.

Deliverable	Due Date
Draft letter	14 Apr 2010
JGN feedback on adherence to scope and factual accuracy of draft report	14 Apr 2010
Final letter	14 Apr 2010

At the completion of this phase of work, the expert will provide an opinion report which:

- provides a summary of their opinions;
- sets out their findings for each of the parts defined in the scope of works (Section 2);
- includes detailed reasons for these opinions;
- fully documents the methodology used in detail and discusses the results obtained;
- lists the facts, matters and assumptions on which their opinions are based and the source of those facts, matters and assumptions, and lists all reference material and information on which they have relied; and
- list any limitations, incomplete matters or qualifications to the expert's opinion.

ATTACHMENT 1: FEDERAL COURT GUIDELINES

EXPERT WITNESSES IN PROCEEDINGS IN THE FEDERAL COURT OF AUSTRALIA

1. Practitioners should give a copy of the following guidelines to any witness they propose to retain for the purpose of preparing a report or giving evidence in a proceeding as to an opinion held by the witness that is wholly or substantially based on the specialised knowledge of the witness (see **Part 3.3 - Opinion** of the *Evidence Act 1995* (Cth)).
2. The guidelines are not intended to address all aspects of an expert witness's duties, but are intended to facilitate the admission of opinion evidence⁷, and to assist experts to understand in general terms what the Court expects of them. Additionally, it is hoped that the guidelines will assist individual expert witnesses to avoid the criticism that is sometimes made (whether rightly or wrongly) that expert witnesses lack objectivity, or have coloured their evidence in favour of the party calling them.

Guidelines

1. General Duty to the Court⁸

- 1.1 An expert witness has an overriding duty to assist the Court on matters relevant to the expert's area of expertise.
- 1.2 An expert witness is not an advocate for a party even when giving testimony that is necessarily evaluative rather than inferential⁹.
- 1.3 An expert witness's paramount duty is to the Court and not to the person retaining the expert.

2. The Form of the Expert Evidence¹⁰

- 2.1 An expert's written report must give details of the expert's qualifications and of the literature or other material used in making the report.
- 2.2 All assumptions of fact made by the expert should be clearly and fully stated.
- 2.3 The report should identify and state the qualifications of each person who carried out any tests or experiments upon which the expert relied in compiling the report.
- 2.4 Where several opinions are provided in the report, the expert should summarise them.

⁷ As to the distinction between expert opinion evidence and expert assistance see *Evans Deakin Pty Ltd v Sebel Furniture Ltd* [2003] FCA 171 per Allsop J at [676].

⁸ See rule 35.3 Civil Procedure Rules (UK); see also Lord Woolf "Medics, Lawyers and the Courts" [1997] 16 CJQ 302 at 313.

⁹ See *Sampi v State of Western Australia* [2005] FCA 777 at [792]-[793], and *ACCC v Liquorland and Woolworths* [2006] FCA 826 at [836]-[842]

¹⁰ See rule 35.10 Civil Procedure Rules (UK) and Practice Direction 35 – Experts and Assessors (UK); *HG v the Queen* (1999) 197 CLR 414 per Gleeson CJ at [39]-[43]; *Ocean Marine Mutual Insurance Association (Europe) OV v Jetopay Pty Ltd* [2000] FCA 1463 (FC) at [17]-[23]

- 2.5 The expert should give the reasons for each opinion.
- 2.6 At the end of the report the expert should declare that “[the expert] has *made all the inquiries that [the expert] believes are desirable and appropriate and that no matters of significance that [the expert] regards as relevant have, to [the expert’s] knowledge, been withheld from the Court.*”
- 2.7 There should be included in or attached to the report: (i) a statement of the questions or issues that the expert was asked to address; (ii) the factual premises upon which the report proceeds; and (iii) the documents and other materials that the expert has been instructed to consider.
- 2.8 If, after exchange of reports or at any other stage, an expert witness changes a material opinion, having read another expert’s report or for any other reason, the change should be communicated in a timely manner (through legal representatives) to each party to whom the expert witness’s report has been provided and, when appropriate, to the Court¹¹.
- 2.9 If an expert’s opinion is not fully researched because the expert considers that insufficient data are available, or for any other reason, this must be stated with an indication that the opinion is no more than a provisional one. Where an expert witness who has prepared a report believes that it may be incomplete or inaccurate without some qualification, that qualification must be stated in the report (see footnote 5).
- 2.10 The expert should make it clear when a particular question or issue falls outside the relevant field of expertise.
- 2.11 Where an expert’s report refers to photographs, plans, calculations, analyses, measurements, survey reports or other extrinsic matter, these must be provided to the opposite party at the same time as the exchange of reports¹².
- 3. Experts’ Conference**
- 3.1 If experts retained by the parties meet at the direction of the Court, it would be improper for an expert to be given, or to accept, instructions not to reach agreement. If, at a meeting directed by the Court, the experts cannot reach agreement about matters of expert opinion, they should specify their reasons for being unable to do so.

M E J BLACK
Chief Justice
25 September 2009

¹¹ The “*Ikarian Reefer*” [1993] 20 FSR 563 at 565

¹² The “*Ikarian Reefer*” [1993] 20 FSR 563 at 565-566. See also Ormrod “*Scientific Evidence in Court*” [1968] Crim LR 240