ADJUSTMENT OF CPI FOR GST
IN THE EAPL DRAFT DECISION

A SUBMISSION TO THE ACCC ON BEHALF OF THE AUSTRALIAN PIPELINE TRUST

AGILITY MANAGEMENT PTY LTD

MAY 2001

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1. ACCC Proposed Amendments A2.4 and A2.14

1.1 Capital Base Indexation

As noted in the Draft Decision, EAPL is proposing a current cost accounting framework for establishing target revenues, under which the capital base is notionally revalued annually in line with inflation (CPI). This is associated with a real rate of return on that capital base.

The Commission has identified the need to adjust CPI indexation of the capital base for the impact of the New Tax System (NTS) – in particular the impact of the Goods and Services Tax (GST).

The EAPL Draft Decision says (p 66):

Proposed amendment A2.4

> *In order for EAPL's access arrangement for the MSP to be approved, the CPI index used in EAPL's current cost accounting methodology must be exclusive of the impact of the New Tax System.*

As stated, this amendment would require exclusion of the NTS component from CPI indexation of the capital base throughout the regulatory period.

1.2 Reference Tariff Indexation

A further CPI adjustment is required on p 126 of the Draft Decision:

Proposed amendment A2.14

> *In order for EAPL's access arrangement for the MSP to be approved, the CPI-X formula must be exclusive of the impact of the New Tax System.*

As stated, this amendment requires complete exclusion of the NTS component from CPI indexation of reference tariffs throughout the regulatory period.

1.3 Rationale for Adjustment of GST

The Draft Decision's rationale for requiring adjustment of CPI is given as (p 65):

> *Failure to exclude this effect of the NTS would result in a windfall gain to investors over and above their expected rate of return at the expense of users and end-users.*

APT agrees that some adjustment of the CPI applied to regulated prices/revenues is warranted. However, the Draft Decision's proposed CPI adjustments in respect of both the capital base and Reference Tariffs must be consistent with the requirements of National Gas Code. APT believes that this is not currently the case, and that therefore an alternative approach to adjusting the CPI needs to be developed.

APT notes that the ACCC has not elaborated on the source of the potential "windfall gains" referred to in the Draft Decision. Together with other owners of major regulated infrastructure, APT has therefore commissioned a report from economic consultants NERA entitled *Economic Issues Surrounding the Appropriate Adjustment of CPI Indexation for the Impact of the New Tax System.* The NERA report - which complements this submission – investigates the potential sources of windfall gain from both a theoretical and practical perspective. It also addresses a range of other issues relevant to CPI adjustment.

2. Requirements of the National Gas Code

EAPL has adopted a *cost of service* methodology in setting a Total Revenue requirement.

Section 8 of the Code – particularly sections 8.2 and 8.4 - sets out the principles to be applied in arriving at Total Revenue. The Cost of Service methodology is described in the preamble to section 8 as follows:

> ***Cost of Service:*** *where the Total Revenue is set to recover 'costs' with those costs to be calculated on the basis of a [Rate of Return] on the value of the assets that form the [Capital Base], [Depreciation] on the Capital Base and the [Non Capital Costs] incurred in delivering all services.*[1]

It is clear from section 8 that Total Revenue must be matched with the Cost of Service within the regulatory period, either on a year-by-year or a NPV (price path) basis.

Under its Cost of Service framework, EAPL has applied CPI escalation:

- *to index the capital base until the start of the next regulatory period.* Together with a real rate of return, this maintains the real value of EAPL shareholder investments during the regulatory period and embodies the principle of "financial capital maintenance";

- *to escalate real revenues during the regulatory period.* This establishes a price path which passes the inflation risk to users and protects EAPL's real returns.

Given the above, the question can be asked: what is the appropriate adjustment to CPI which is consistent with the Cost of Service methodology required under the National Gas Code? This question has to be addressed in relation to the indexation of both the

[1] National Third Party Access Code, p 45; brackets indicate some words omitted.

capital base and revenues, although these matters are basically related. Section 3 following addresses these issues.

3. The Capital Base and Financial Capital Maintenance

3.1 Regulatory Determinations

APT notes that 100% CPI indexation of the capital base has been an established regulatory practice under the principle of "financial capital maintenance" whereby the regulator *undertakes to maintain the value of the capital base in real terms.* Both the ORG in Victoria and IPART in NSW have accepted this principle. For example, IPART has stated in its recent Final Decision for AGL Gas Networks:

> *AGLGN is allowed to index the capital base over the period 2000-2004 by the CPI inclusive of the Goods and Services Tax (GST).* ***This is consistent with the principle of financial capital maintenance****. The impact of the GST is assumed to be a one off effect for the financial year 2000/01.*[2] (emphasis added)

IPART has made similar decisions in respect of the Albury Gas Co, Great Southern Energy Gas Networks and the NSW Electricity Distribution Networks.

The Independent Competition & Regulatory Commission has made a similar decision for the ActewAGL Gas Network in the ACT.

The ORG has allowed GST inclusive capital base escalation for SPI PowerNet and the Victorian gas distributors and retailers.

- ***Regulator's Reasons for Financial Capital Maintenance***

IPART has noted:

> *The advantage of the financial capital view of the Regulatory Asset Base is that--- it ensures that the general purchasing power of the original investment is preserved. The investor is not concerned so much with the specific physical assets of the entity, but with* ***preserving the initial investment plus an appropriate return***[3] (emphasis added)

Likewise, the ORG has said:

> *The regulatory asset base represents the regulator's view of the value of the existing investment in the regulated entity at any point in time---*

[2] Independent Pricing and Regulatory Tribunal of NSW, Final Decision – Access Arrangement for AGL Gas Networks Limited, July 2000, p 119.

[3] Independent Pricing and Regulatory Tribunal of NSW, Rolling Forward the Regulatory Asset Bases of the Electricity and Gas Industries – Discussion Paper, January 1999

> *--the regulator can be interpreted as making an implicit commitment to ensure that the market value of those* [regulatory] *assets does not fall below the regulatory asset base over time. The objective of encouraging efficient investment will only be met if this remains a viable commitment.*[4]

3.2 What is the Position of Unregulated Businesses?

Section 4 of the NERA report examines the "best possible" case for the ACCC's proposal to adjust CPI indexation of regulated capital costs, recognising however that the ACCC has not so far established a comprehensive basis for this action.

One aspect of NERA's investigation was to examine whether there is any economic rationale to suggest that the real value of all capital assets in the Australian economy fell by around 2.5 percent as a result of the GST CPI spike (section 4.1 of report). If this was the case, it might be possible for the ACCC to argue that investors in regulated businesses would have suffered a real loss in financial capital due to the GST CPI spike had they invested elsewhere (at similar risk). That is, removing the GST CPI spike from indexation of regulated real returns could be seen as simply reflecting variations in the real value of capital *throughout the economy.*

NERA finds that the most plausible case for this view relies on a number of major assumptions concerning the likely impact of the GST spike on the domestic risk free rate of return, capital supply to the Australian market generally and barriers to entry to the unregulated sector. If all the nominated assumptions held, then it would follow that the value of nominal returns on *existing* capital assets would *not* rise with the GST CPI spike and therefore the real financial value of those assets would fall by the GST CPI spike.

After considering each assumption in detail, NERA concludes that it is reasonable to argue that not all of these conditions are likely to hold. Therefore it is reasonable to conclude that unregulated businesses would have been able to *maintain* most if not all of *the real financial value of their capital* in the face of the GST CPI spike.

In APT's view, the principle of "financial capital maintenance", as a regulatory commitment, remains valid irrespective of the situation facing unregulated businesses at any given time. Nevertheless, the likelihood that unregulated businesses had the opportunity to maintain the real values of their capital highlights the disparity of an approach which results in the devaluation of regulated assets.

[4] ORG Consultation Paper No 4, Cost of Capital Financing, p 15

3.3 The ACCC View - Capital Gain to Equity Holders

Correspondence between the ORG and the ACCC[5] appears to indicate a further ACCC view that maintaining the real value of the capital base would provide investors with an unwarranted capital gain.

The rationale for this view appears to be that by maintaining the real (GST inclusive) value of the asset base, regulated businesses will obtain a "windfall" increase in real equity returns. The ACCC's reasoning is as follows:

> *In order to analyse the source of the increase in return on equity, the effects on the different sources of capital (equity and debt) must be considered. Equity holders are compensated for inflation through the capital gain of that part of the asset base funded by equity so that their real returns are preserved. There is a similar (proportional) capital gain associated with that part of the asset funded by debt. However, the asset owner's nominal debt position remains unchanged, hence the adjustment represents an unanticipated capital gain for equity holders.*[6]

The ACCC then argues that to remove this increase in return on equity, the GST must be removed from the CPI for the remainder of the regulatory period. However, the ACCC added:

> *If it was intended to interpret economic neutrality as discussed above* [ie maintenance of the real value of the asset base] ***a proportional adjustment to the capital gain that can be attributed to debt financing may be a theoretically more exact adjustment.***
>
> *However, the effect on the business is likely to be small over the long term if the regulatory asset base is adjusted for actual inflation occurring during the regulatory period at the next review.*[7] (emphasis added)

Under this "windfall gain" hypothesis, the ACCC appears to acknowledge that real returns to that part of the capital base funded by equity should be preserved, while any adjustment for the GST impact should relate only to the returns on that part of the capital base funded by debt. Nevertheless, the EAPL Draft Decision requires that indexation of *all* EAPL revenues attributable to the capital base be exclusive of the GST impact.

APT makes the following observations:

[5] Letter from Dr David Cousins (ACCC) to Dr John Tamblyn (ORG) dated 30 June 2000 [available ORG website]

[6] Ibid p 2

[7] Ibid p 2

- If, as it appears, the ACCC accepts that real equity returns should be preserved, then at least one capital cost - real return on equity - *is not being matched by revenue within the regulatory period* if all revenues attributable to the capital base are indexed exclusive of GST;

- APT's view is that the Cost of Service methodology requires *all* capital costs to be indexed to the full CPI within the regulatory period and this includes debt costs;

- There is an apparent proposition in the above extract that rolling forward the capital base at the beginning of the next regulatory period by the GST *inclusive* CPI will in the long term somehow ameliorate the loss of revenue and subsequent devaluation of the capital base in the current regulatory period;

- APT notes that this proposition has not been demonstrated, and in any event, the concept of not allowing an appropriate cost to be recovered within a regulatory period on the grounds stated above that "the long term effect will be small" is a concept which is entirely foreign to the Cost of Service requirements of the Code.

3.4 Is There Evidence of a Windfall Gain on Capital Costs?

The "windfall gains" proposition relies upon the assumption that the GST spike had *no impact on nominal debt costs* with the result that any indexation of real debt costs by the GST inclusive CPI would provide a windfall gain to owners of (wholly or partly debt funded) assets.

APT points out that this argument assumes that none of the debt in question is financed by CPI indexed securities, which is obviously untrue for asset holders as a whole in Australia, including many regulated asset holders. The ACCC proposition should at least be formulated in terms of a hypothetical "gain" only to that proportion of an asset funded by nominal debt. To provide evidence of any "windfall gain", one then has to ask: what was the impact on *nominal* market yields as a result of the GST spike? This is an empirical issue, and one which NERA has investigated in section 4.2 of its report.

Observing *nominal* bond yields should be the most direct method of describing what actually happened to the cost of capital as a result of the GST spike but, as NERA points out, it is difficult to disentangle movements in nominal yields that may be due to the GST spike from other concurrent economic factors, including changes in both the real interest rate and inflation expectations (due to non GST-related reasons). However, the existence of observable yields on *indexed* bonds combined with the existence of certain key dates on which the *probability of the GST being introduced materially changed* does allow relevant conclusions to be drawn.

NERA has developed a rigorous conceptual framework for analysing the significance of movements in yields on indexed bonds as an indicator of the underlying impact of the GST spike on nominal bond yields. Additionally, NERA has investigated time periods when the impact of the GST was most likely to have been incorporated into indexed bond yields.

NERA has concluded:

- If the anticipation of the GST spike in CPI *did not result in an increase in nominal bond yields* at a particular date, then *real indexed bond yields should fall* at that time by the expected impact of the GST on CPI indexed bond revenues;

- October 1998 is the only single date in which it possible to say that there would have been a significant increase in the financial markets' (probabilistic) expectations of a GST spike in CPI (acknowledging that some of the spike could have been factored into yields before this);

- Real bond yields in fact *increased* dramatically at this time, rather than falling;

- In order to explain away this observation as being due to underlying movements in real yields "swamping" the negative impact of the GST CPI spike, it would be necessary to believe that underlying increases in real yields were at record levels in October 1998;

- This view is not supported by any clear evidence and therefore the opposite is likely to hold: that is, the GST spike in CPI was fully reflected in an increase in nominal debt costs by October 1998.

The above analysis has two important implications for the argument concerning windfall gains on debt financing:

- to the extent that a business had long term fixed rate debt finance, any windfall gain that might have occurred as a result of the GST CPI spike would have occurred *in full* by October 1998;

- since the GST spike is likely to have increased nominal yields, there will have been no windfall gain to businesses with floating rate debt or fixed rate debt refinanced *after* October 1998.

3.5 Conclusions – Capital Base

The proposed Amendment to exclude the impact of GST from CPI indexation of the capital base will:

- reduce the real value of the capital base and infringe the established principle of "financial capital maintenance";

- will not match real capital costs with revenues under the Cost of Service methodology required by the Code.

In addition, NERA's analysis has demonstrated that:

- it is reasonable to expect that unregulated businesses would have been able to maintain much of the real financial value of their capital in the face of the GST CPI spike;
- since the GST spike is likely to have increased nominal yields, there will have been no windfall gain to businesses with floating rate debt or fixed rate debt refinanced after October 1998.

4. Reference Tariffs and Cost Reflectivity

4.1 Conceptual Issues

The argument has been put that CPI indexation of regulated prices inclusive of GST will significantly over-compensate businesses for their actual cost increases and is therefore not justified.

This position is presented most comprehensively in the ACCC's publication *Application of the Price Exploitation Guidelines to regulated industries: the process* (March 2000).

The process states that the CPI including GST reflects an economy-wide change in cost structure and that regulated businesses have already been compensated for this change in costs by the pass-through in their prices of the net New Tax System changes.

The process states that:

> *It is unlikely that the O&M* [operation and maintenance] *costs will increase by more than the underlying inflation and similarly it is questionable whether the components of costs comprising capital costs (the dollar profit margin) will be*[8].

APT agrees that O&M costs (and costs related to new capital investment) will not increase as fast as the GST-inclusive CPI in the period after 1 July 2000, since these costs benefit from the removal of wholesale sales taxes and other imposts; but this does not apply to the other components of Total Revenue. This issue has been succinctly analysed by the Office of the Regulator-General, Victoria in a discussion of the "economically neutral" basis for adjusting CPI indexation:

> *A distinction needs to be made between the costs expected to be incurred by a business in the future, and the (sunk) investments that had been made by the business prior to the change in the taxation regime--- the costs of a business's existing stock of capital*

[8] The Process p 10

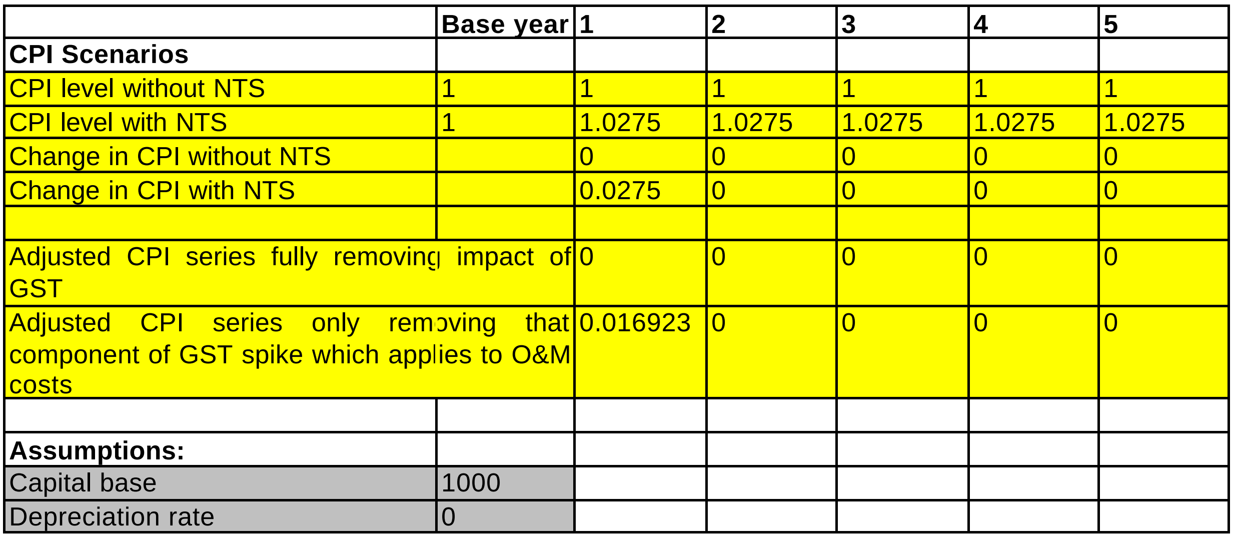
> *would not fall with the reduction in embedded taxes (given that the embedded taxes in respect of this capital would have been paid already). Accordingly---no* [CPI] *adjustment should be made for the share of revenue in respect of the business's existing assets*[9].

In other words, real cost reductions after the introduction of the GST should be made only to those components of Total Revenue which actually benefit from the removal of pre-GST taxes, namely O&M costs and costs related to new capital expenditure. This should be reflected in a Cost of Service model by the GST *exclusive* indexation of those costs. The Cost of Service model then requires the real returns on and of capital derived from the existing capital base to be maintained by GST *inclusive* indexation.

This following section demonstrates how CPI indexation of EAPL's Total Revenue exclusive of the impact of GST can be compatible with Cost of Service principles.

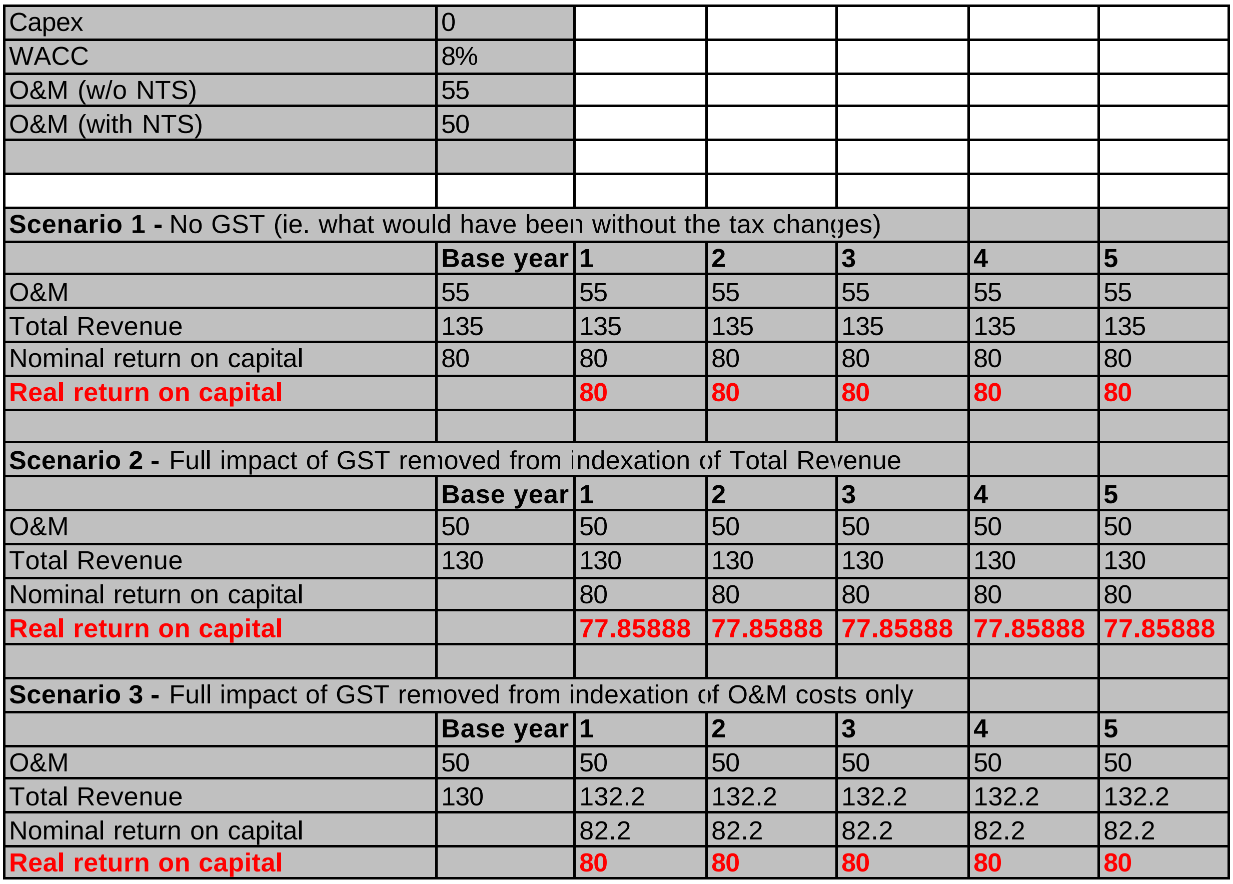
4.2 Demonstration of Cost of Service Approach to CPI Escalation of Reference Tariffs

The spreadsheet below examines the implications of fully removing the impact of the GST from CPI indexation of Total Revenue. It shows that this action lowers the real rate of return on capital within the regulatory period relative to what would have occurred in the absence of the NTS. In order to maintain a real Cost of Service, the adjustment to the CPI should be proportional to the percentage of total costs accounted for by O&M costs.



	Base year	**1**	**2**	**3**	**4**	**5**
CPI Scenarios						
CPI level without NTS	1	1	1	1	1	1
CPI level with NTS	1	1.0275	1.0275	1.0275	1.0275	1.0275
Change in CPI without NTS		0	0	0	0	0
Change in CPI with NTS		0.0275	0	0	0	0
Adjusted CPI series fully removing impact of GST		0	0	0	0	0
Adjusted CPI series only removing that component of GST spike which applies to O&M costs		0.016923	0	0	0	0
Assumptions:						
Capital base	1000					
Depreciation rate	0					

[9] Gas Final Approach: Change in Tax Decision, Response to Goods and Services Tax, July 2000, p 31



Capex	0					
WACC	8%					
O&M (w/o NTS)	55					
O&M (with NTS)	50					
Scenario 1 - No GST (ie. what would have been without the tax changes)						
	Base year	**1**	**2**	**3**	**4**	**5**
O&M	55	55	55	55	55	55
Total Revenue	135	135	135	135	135	135
Nominal return on capital	80	80	80	80	80	80
Real return on capital		**80**	**80**	**80**	**80**	**80**
Scenario 2 - Full impact of GST removed from indexation of Total Revenue						
	Base year	**1**	**2**	**3**	**4**	**5**
O&M	50	50	50	50	50	50
Total Revenue	130	130	130	130	130	130
Nominal return on capital		80	80	80	80	80
Real return on capital		**77.85888**	**77.85888**	**77.85888**	**77.85888**	**77.85888**
Scenario 3 - Full impact of GST removed from indexation of O&M costs only						
	Base year	**1**	**2**	**3**	**4**	**5**
O&M	50	50	50	50	50	50
Total Revenue	130	132.2	132.2	132.2	132.2	132.2
Nominal return on capital		82.2	82.2	82.2	82.2	82.2
Real return on capital		**80**	**80**	**80**	**80**	**80**

Explanation of Spreadsheet:

(a) CPI Scenarios

- without GST, the CPI level each year is an underlying factor equal to 1 (assume zero inflation);
- there is a GST "spike" in year 1 of 2.75%;
- the net result is an unchanged level of CPI if the GST impact is removed in year 1, but a CPI level which is permanently 2.75% higher from year 1 if the GST is included.

(b) Assumptions

- post-GST, nominal O&M costs fall from 55 to 50, reflecting the removal of embedded taxes. As demonstrated in section 4, no such decrease can occur for sunk costs; namely, return on capital – which in the "base year" is 80.

(c) Outcome Scenarios

Scenario 1

- Without the NTS intervening, Total Revenue (135) is indexed by full CPI (ie, 1). O&M costs are 55, also indexed by 1. By difference, the nominal return on capital is 80. This is also the real return. Result: real total costs = real Total Revenue for each year of the regulatory period.

Scenario 2

- With NTS, O&M costs fall to 50. The Total Revenue requirement is now 130 which is indexed by the "adjusted" CPI change of 1 instead of 1.0275. By difference, the nominal return on capital is 80. However, the real return on capital is 77.9 for each year (80/1.0275). Thus real returns have fallen, and real total costs do *not* equal real Total Revenue over the period.

Scenario 3

- In this scenario, the impact of GST is removed from CPI in respect of costs which have actually fallen – O&M costs.

  The adjusted CPI change is 2.75% less [1 + (0.0275* 50/130)] or 1.69%. This adjusted CPI is applied to Total Revenue in year 1, raising it to 132.2. By difference, the nominal return on capital is 82.2, leaving the real return maintained at 80. Thus, real total costs = real Total Revenue as required under Cost of Service.

The next section demonstrates how the above and other approaches can be used to implement the required CPI adjustment.

5. How the CPI Adjustment Could be Implemented

Direct vs Indirect Approaches

As demonstrated in sections 3 and 4 above, an alternative approach to the ACCC's proposals for adjusting the CPI needs to be developed.

APT notes that the required approach can be either *direct* or *indirect*.

5.1 Direct Approach

The *direct* approach would directly index the separate components of Total Revenue by the CPI measure appropriate to each stream; that is, GST exclusive indexation of O&M

and new capital costs, and GST inclusive indexation of sunk capital costs[10]. The same result could be obtained by calculating a CPI indexation factor which reflected the proportion of O&M and new capital costs in Total Revenue, as shown in scenario 3 in section 4.2 above. As an example, the indexation of Reference Tariffs for the year 2001-02 would be calculated as:

$$[(1+ \Delta CPI - CPI_{spike})_{2001} (1 - X)] * [(O\&M \text{ costs} + ROA_{new})_{2001}/(\text{Total Revenue})_{2001}]$$

where

ΔCPI = % change in CPI from 2000 to 2001 expressed as a decimal;

$CPI_{spike} = 0.025$

and ROA_{new} = return on assets purchased after introduction of the NTS

5.2 The Indirect Approach

The *indirect* approach would capture the appropriate indexation of the components of Total Revenue within the "X" factor in the CPI-X adjustment to Reference Tariffs. This would then permit Reference Tariffs to be indexed totally exclusive of the impact of GST, *so long as* the X factor captured the maintenance of sunk capital costs post the NTS changes. The X factor would be calculated to allow a fall in O&M costs and new capital costs as a result of the NTS changes.

6. Appropriate Estimate of the Impact of NTS on CPI

The Draft Decision quotes the impact of the NTS as being "a one-off increase in prices" of approximately 2.75 per cent.

The process and the EAPL Draft Decision both accept the Commonwealth Treasury's estimate of 2.75 per cent for the impact of NTS year 2000-01. However, this is an old estimate dating back to the Commonwealth Treasury's mid-year estimates in November, 1999, whereas the Treasury has now provided an updated estimate for 2000-01 in its *Mid-year Economic and Fiscal Outlook 2000-01* published on its website. The new estimate is 2.5 per cent.

In view of the fact that *The process* says -

> *The figure that the Commission will deduct from the CPI will be the most up to date official Treasury forecast*[11]

[10] See for example: ORG, Gas Final Approach, Change in Tax Decision – Response to the Goods and Services Tax, p 39: *Process used to make adjustment for GST related CPI-spike for 2001 and 2002.*

[11] The process p 6

- Agility submits that *2.5 per cent* is the appropriate estimate of the 12-month impact of the NTS on CPI to be used.

7. Determining the Correct Period for CPI Adjustment

APT notes that the most up to date official Treasury forecast of the *long term effect* of the NTS on CPI is *2.25 percent* and this is relevant to the following issue.

If the ACCC's above-quoted rationales for indexing the revenues of regulated businesses completely exclusive of the GST impact were accepted – and this submission does not accept them - it can nevertheless be demonstrated that an adjustment to the CPI *exclusive only of the 12 month impact of the GST* is technically flawed in terms of the ACCC's own criteria. The ACCC's proposed approach would not only cause a reduction in the real return on equity but would fail to even maintain a "constant dollar margin"[12].

This issue is developed in detail in section 3.2 of the NERA report.

[12] That is, a constant return on and of existing capital.