Summary of Responses to PEG's February 2008 Report on Opex Rate of Change – Forecast Opex Partial Productivity

Issue	PEG argument	Meyrick response
Meyrick's Forecast of 0.8% pa		
Meyrick projections	Relying on GDB data forecasts is not objective and is self–referential	Despite its rhetoric, PEG provides no examples of specific initiatives that could boost opex PFP We noted that regulators would want supporting external evidence but this doesn't mean that GDB evidence should be completely discounted as PEG does PEG's approach chooses to disregard an important source of information that is critical to a balanced assessment
	Forecast GDB opex PFP cannot be compared with actual EDB opex PFP	Seeing that the two industries have similar economic characteristics and EDB reform started 3 years before GDB reform then it is perfectly valid to compare the patterns over a longer period, which means including forecasts for the GDBs To put it another way, given the economic similarities, what has happened with the EDBs should provide a good guide to what is likely to happen with the GDBs going forward Why does the PEG EDB time period quoted finish in 2003? This ignores the fact that PEG's EDB opex PFP declined from 2002-2005 (but it is noted that PEG's most recent report released a few weeks ago shows a seemingly spurious large increase in 2006)

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BIS projections	Labour and non–labour components of opex are likely to have PFPs moving in opposite directions	PEG presents no convincing evidence of this and instead resorts to unfounded speculation – precisely the thing it accuses Meyrick of PEG seems to be confusing in–house with outsourced labour – as far as the relevant Australian analysis is concerned it is all labour regardless of whether it is directly or indirectly employed
	The ABS labour PFP data for electricity, gas and water do not show similar patterns	PEG obfuscates the comparison by looking only at changes from 1998 onwards. The point we made is that gas has a *far greater* fall in labour PFP since 2001 than electricity or water. BIS's approach remains conservative and appropriate in light of this new evidence from ABS Even adopting PEG's time period, the ABS gas PFP declines substantially – something PEG simply chooses to disregard
	The ABS EGW labour productivity data are not relevant to the GAAR	PEG chooses to disregard the new ABS data that has been released since its first report showing that the gas industry's experience on labour PFP has been far worse than the sector's according to the ABS While gas distribution may be a small part of the total EGW sector, it is a significant part of the gas industry and this new information cannot simply be disregarded – it points to the need for a cautious approach PEG quotes US Bureau of Labor Statistics figures to

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		support its own estimates on p.38 despite criticising Meyrick for referring to broadly comparable ABS estimates in the Australian context
	There is no relationship between gas distribution and economy wide opex PFP	PEG seems to miss the point here – Meyrick is not arguing that there should be convergence to the economy–wide PFP growth rate or that the economy–wide PFP growth rate could be used in the GAAR as PEG alleges PEG fail to answer our basic proposition that, given that this is a relatively 'low tech' industry, it's opex PFP growth is likely to be less than that for the economy
North American results	The flattening in US gas distribution opex PFP growth after 1999 should be ignored because it was largely caused by the slowdown in economic conditions North American regulators require at least 10 years' data to establish productivity trends	One needs to look at the pattern of productivity growth as well as the period average to establish what is a reasonable forecast going forward PEG is the one that is in fact cherry–picking results here to support its high econometric 'forecast' It is rather ironic that PEG berates the quoting of PFP growth rates from different jurisdictions when its own model is estimated using data from the US Given that Australia appears to be heading into a period of slower economic growth, the US experience post 1999 would be even more relevant than PEG's estimate which includes the high PFP growth 90s Some North American regulators explicitly recognise the need to place more weight on more recent productivity

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		results (eg Ontario Energy Board electricity regime) The Victorian DPI rule change proposal explicitly recognises the importance of placing weight on recent productivity growth by using a ‘rolling average’ approach. Examples quoted use a 5 year timeframe.
	Meyrick’s US gas distribution opex PFP estimates are inaccurate because they are based on estimates of gas costs derived from city gate prices and exclude A&G costs	PEG fails to recognise that Meyrick used the *actual* gas costs in its US opex PFP work – this was made clear on p.43 of our report The PFP of opex excluding A&G costs will be a good proxy for total opex PFP The Meyrick US opex PFP estimates are very similar to those obtained by PEG for a similar period, ie when an objective, ‘apples with apples’ comparison is made (ie 1998 to 2005 for Meyrick and 1999 to 2004 for PEG)
Australian precedents	Meyrick misinterprets PEG’s comments regarding the similarity of the EDB and GDB PFPs The PFP should not be set on the basis of precedents	Despite its attempts to differentiate growth rates and rate of change of growth rates, PEG appears to be agreeing that there are no differences in the industries’ long run sustainable behaviours. This would indicate that EDB precedents are indeed relevant, particularly given the relative dearth of comparable information for GDBs. PEG fails to acknowledge that the Meyrick case for a forecast PFP of 0.8% is based on the four sources of evidence all providing support for a forecast of this magnitude. We are not relying on a single source of information as PEG appears to imply.

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Meyrick Review of PEG Approach		
Basic approach	While acknowledging that index methods are to be preferred, PEG claim they cannot be used in the GAAR	We note that PEG has not used its econometric approach and has instead reverted to using index methods in its latest North American work (for the Ontario Energy Board). A similar approach should be adopted in the GAAR. If one was to use a cost function approach it would be more appropriate to use a total cost function rather than the inadequate opex cost function PEG uses.
	The econometric approach allows 'drivers' for specific GDBs to be incorporated	The Victorian DPI rule change proposal argues that the main factors causing productivity growth are 'technological change and the realisation of economies of scale and density, which are common to all firms in the industry'. The PEG approach contradicts this.
Functional form	Meyrick criticises PEG for using the translog functional form but uses the translog itself in its benchmarking work	PEG sidesteps the issue raised that the translog form is no longer state of the art. Among other things, newer functional forms allow the correct curvature conditions to be imposed on parameter estimates. The brief for the benchmarking work asked Meyrick to estimate a cost function model using 'the older translog form that PEG uses' or a newer functional form. Time constraints did not allow the use of a newer functional form. The fact remains that the translog form has a number of limitations.

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	Meyrick's criticism of the translog form not performing well where there are multiple outputs relies on assumptions not applicable to GDBs	Again PEG sidesteps the issue by obfuscating that GDBs are not characterised by constant returns to scale. The fact remains that the translog does not perform well where there are multiple outputs regardless of the applicability of the assumption of constant returns to scale. It was only in assessing the PEG work that we realised the translog has this limitation. The PEG response to this new evidence is very inadequate.
US Data	Meyrick criticises PEG for using US data and claims that operating environment differences between the US and Australia are not adequately accounted for but Meyrick uses US data in its benchmarking work	Meyrick was explicitly requested to include US data in its benchmarking work – the objective was to update the 2001 study PEG did for the GDBs. While differences in operating environments will make cross sectional comparisons tenuous, the problems will be considerably more pronounced for using parameters estimated 'out of sample' as PEG does to forecast future productivity growth for a different country. PEG's responses in its letter to the NZ MED on operating environment conditions fail to recognise that the totality of operating environment conditions in the US are so different to Australia (and NZ) that out of sample estimation of key parameters using US data will not provide a satisfactory basis for forecasting Victorian opex PFP. We note that PEG's use of US data to recommend X factors in Ontario is currently being disputed by the Ontario EDBs who claim that models should rely on Ontario data given the different operating conditions and

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		circumstances in Ontario compared to the US – and Ontario is likely to be less different from the US than is Victoria. PEG's approach in the Victorian situation is critically flawed.
System capacity	Meyrick criticises PEG for not including system capacity variables but does not include them itself in its benchmarking work.	Again, PEG sidesteps the fundamental issue here. PEG argues that the absence of this data in effectively 'off the shelf' data sources in the US makes its inclusion impossible. But Meyrick has constructed robust measures of this variable for the Victorian GDBs. If US data is to be used in setting GAAR parameters then PEG has a responsibility to obtain similar information for the US GDBs included in its sample. Failure to do this introduces a potentially major bias into PEG's estimates and makes them unsuitable for use in the GAAR. This highlights a further problem with relying on US data as PEG does.
	Limited empirical evidence (ie from Victoria) indicates that estimates are not sensitive to exclusion of system capacity variables	PEG claims that the fact that the system capacity variable for Victoria increases at a comparable rate to the other two outputs means that results are not sensitive to its inclusion or exclusion. However, this cannot be generalised to the case of the US where the relationship between system capacity, throughput and customer numbers is completely unknown. PEG's quote from its NZ cross submission is misguided. It fails to recognise the important role of pressure in determining system capacity. The existence of low pressure, medium pressure and high pressure systems in

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		Victoria (and elsewhere, including the US) mean that pressure plays a critical role in addition to pipeline diameter. PEG cannot argue that merely because data on a key variable do not currently exist (in a readily accessible place) then it is acceptable to ignore this key output variable. Simply because this is an inconvenient issue for PEG does not mean it can be ignored.
Capital stock measures	Meyrick's approach to proxying the annual capital input quantity by physical measures is not used in North America.	Simple logic indicates that a 'one hoss shay' approach to measuring depreciation is more appropriate for GDBs' (and EDBs') assets than is the declining balance or straight line depreciation approaches inherent in PEG's deflated depreciated asset value approach. PEG has consistently not engaged in the debate over these issues, instead falling back on appeals to North American precedent. On the other hand, the physical quantity proxy approach now forms the basis of New Zealand's regulatory regime. The physical quantity proxy approach has also been used previously in Australia – in the QCA's electricity distribution price review in 2000. The consulting group advising the QCA comprised PEG and Meyrick staff.
	Using physical quantity measures would be 'inconsistent' with using asset value based costs	PEG appears to miss the point here. If one uses the physical quantity proxy approach to measuring the capital input quantity, the annual cost of capital will still be related to asset values. This is because each year older the asset becomes, the less it will be worth as it has one

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		less year of remaining life available even though its annual physical input capacity remains constant until the end of its life. It is true that the asset will have a different annual input price but this is entirely appropriate given the characteristics of the assets. Indeed, PEG's 'traditional' approach mismeasures the annual price for using these assets.
Capital stock coefficients	Meyrick's criticism of PEG obtaining the wrong sign on its capital stock coefficient does not recognise that many other researchers have run into a similar problem.	The point remains: the PEG US econometric model is not consistent with overall cost minimising behaviour on the part of US distributors and a positive coefficient on capital implies a production function where the addition of more capital causes output to fall. Thus, the use of the PEG econometric results is a conceptual error on the ESC's part. The PEG model highlights one of the fundamental problems with the econometric approach – multicollinearity problems plague its use in this context. The incorrect sign on capital will tend to bias upwards the PEG estimates of productivity growth; ie capital growth and time are multicollinear variables and if capital growth gets a positive coefficient (when it should be negative), then it is likely that the time coefficient will be more negative than it should be, thus leading to more cost reducing technical progress than is warranted and biasing the productivity growth rate upwards. This is not a sensible result that a regulator should rely on.

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Firm-specific opex targets	Using firm–specific ‘drivers’ (including forecast output growth) is not inconsistent with incentive regulation	PEG does not adequately address Meyrick’s argument that using firm–specific targets will create perverse incentives for the GDBs to alter their behaviour to influence the X they will be set in future. The Victorian DPI rule change proposal argues that the main factors causing productivity growth are ‘technological change and the realisation of economies of scale and density, which are common to all firms in the industry’. The PEG approach contradicts this.
	Meyrick staff have previously advocated company–specific opex targets in Queensland electricity distribution	PEG knows full well that the Queensland EDB situation in 2000 was very different to the Victorian GDB situation in 2008. As PEG notes, the reason for recommending different targets in the Queensland EDB case was because the two EDBs were operating at quite different levels of efficiency. This is not the case for the Victorian GDBs where, after a decade of privatisation, the three GDBs are assumed to be operating at similar levels of efficiency. PEG’s argument here obfuscates the fact that it has used firm–specific opex targets where the firms are operating at similar levels of efficiency and this will create perverse incentives.
Conclusion	PEG has stopped using the Meyrick ANZ database in response to Meyrick’s comments but does not find any other arguments convincing	PEG has not mounted any convincing arguments against the four pillars of the Meyrick recommended opex PFP forecast of 0.8%. PEG has not refuted Meyrick’s criticisms of its flawed econometric methodology or its reliance on US data

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		which is not relevant for Victorian conditions. The PEG econometric approach is at odds with key theoretical requirements, with the approach it has adopted in its latest North American work and with key aspects of the rule change proposal being put forward by the Victorian DPI. The PEG study is not fit for purpose for use in the GAAR.

Errors in PEG's Table 6

There appear to be at least two errors in Table 6 of PEG's February 2008 opex report. Both relate to calculation of the returns to scale 'B' factor:

- the sum of output elasticities should be 0.77 in all cases (ie 0.57 + 0.20) not 0.73, 0.73 and 0.64 as listed; and,
- the deliveries weight for Multinet should be 25.78%, not 21.04% as listed.

The effect of correcting these errors is to change PEG's PFP estimates to 2.18%, 2.22% and 2.76% for SP AusNet, Envestra and Multinet, respectively.

Changes in PEG's Table 5

Meyrick notes that PEG has not presented the Victorian GDB data it has used in deriving its forecasts (although they are sourced in footnote 71). There appear to have been significant changes made to the data used for some variables relative to PEG's July 2007 report. An explanation of the reasons for these changes should be provided.