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Queensland Competition Authority

Report for QR's Proposed Maintenance Cost Index Assessment of Operating and Maintenance Costs for UT3

November 2009



1. Introduction

As part of QR's UT3 Submission for maintenance costs associated with the Central Queensland Coal Region, QR has proposed that future adjustments to its maintenance cost occur on the basis of the movements in various publicly available indices according to a weighted formula. Costs would therefore, in future, be adjusted in accordance with the historical index data, notwithstanding any other adjustment that may be made on the basis of variations in task or productivity according to the relevant QCA Decision on the Undertaking.

This note identifies some of the aspects of this approach.

2. Background

In QR's UT3 Submission provided to the QCA, it indicated *"The Maintenance Cost Index (MCI) was proposed to provide a more relevant measure of indexing for maintenance cost escalation than the non-representative basket of goods in the consumer price index. The purpose of this paper is to outline the calculation of the MCI and its reconciliation with the Maintenance Cost Submission (MCS), to provide further simplicity and transparency to the process"* and this is a welcome approach to the understanding by stakeholders of the cause of cost variations.

We note however that QR bases its approach on *"In preparing the forecast maintenance cost index for the UT3 period QR Network has derived the relevant components and weightings from de-escalated maintenance costs in the UT3 submission provided to the QCA in June 2009* so that while the framework is appropriate the actual content is wholly dependent on the efficacy of the projections for cost in their Submission.

3. Basis of Framework

QR has proposed that the basis of the weightings for the adjustments be on cost categories.

Maintenance costs are broken down into the following categories and GHD's comments in relation to these categories are:

- Labour – the proportion of labour- and "mechanisation" embedded costs alters throughout the period. Labour has a higher proportion of costs at the beginning of the period than at the end where greater use of mechanical equipment is forecast. QR has averaged the costs over the full period.
- Fuel – as the use of mechanisation is increased over the period this is likely to increase in proportion. QR has averaged this proportion to construct the weightings.
- Accommodation – this component is likely to remain relatively stagnant
- Consumables – this component is likely to remain relatively stagnant
- Plant Operating Costs – this component will increase in its proportion over the period
- Asset Costs - these are the capital costs associated with ownership of the plant assets. It is understood QR intend to hold the index constant over the period and this is desirable given funding nuances from time to time.



Margin -

it is understood the Margin will not have an escalation applied to it separately from the escalation of overall costs as it is a composite or is derived from the base costs. The concept of a Margin at all is not considered appropriate for some elements of the costs and this point has been commented upon in GHD's report on the maintenance costs in UT3. However we have no objection to its notional inclusion.

GHD understands that the MCI will be applied on a weighted basis across all cost elements. Given the high cost of capital proposed and the impact of the large MPM program on maintenance where considerable amounts of corrective maintenance are now driving the maintenance task, a review of the weightings should be undertaken toward the end of the Regulatory Period as the benefits of the high MPM effort should be apparent.

4. Baseline Costs

In determining the baseline costs QR has suggested application of the content of its UT3 Submission, including amongst other things, certain labour cost increases in Trackside Systems of 20% that has occurred in the past. Comments about certain matters and a recommendation including adjusted costs have been made by GHD in its review of QR's UT3 Submission. Notwithstanding those comments, the framework is consistent and can be applied with 2008-09 as the baseline year.

QR's assessment of the baseline costs based on and relevant to the UT3 maintenance cost estimate at 2007-08 and the derivation of the maintenance cost index is summarised in Table 1. QR Network has included plant maintenance in the weightings by splitting its 11.6% share of total costs equally between labour and consumables. Subject to the determination of costs from GHD's assessment of QR's UT3 submission, the costs shown are consistent with QR's Submission.

Table 1. UT3 Baseline Maintenance Costs by Category (\$m)

	Fuel	accom	consum	labour	asset	Total
2009/10	\$5.3	\$2.6	\$58.2	\$75.0	\$16.3	\$157.4
2010/11	\$5.8	\$2.7	\$62.2	\$80.1	\$26.3	\$177.1
2011/12	\$6.0	\$2.8	\$64.4	\$81.0	\$35.7	\$190.0
2012/13	\$6.1	\$2.8	\$64.6	\$82.1	\$35.3	\$190.9
Total (\$m)	\$23.2	\$10.9	\$249.4	\$318.2	\$113.6	\$715.4
Total (%)	3.2%	1.5%	34.9%	44.5%	15.9%	100.0%

5. Calculation of Variation

In subsequent years QR propose that the variation to costs would be calculated on the basis of applying the MCI escalated unit rate to the scope of work units. This will require a separation of scope units from the unit rate. GHD believe this is a robust method.

The actual (escalation) weightings proposed by QR are shown in Table 2. As can be seen, these proposed weighting match exactly the forecast breakdown of maintenance costs shown in Table 1. These forecasts reflect the average baseline costs over the period and while these do not explicitly



recognise the changes in the mechanised maintenance proportion they are a good approximation to what could be reasonably expected.

Table 2. Maintenance Cost Index Weightings

Fuel	Accom	Consum	labour	asset
3.2%	1.5%	34.9%	44.5%	15.9%

QR has provided an outturn calculation of the Indices in Table 3 by applying the weightings to each relevant adjusted for actual data in 2008-09. All components of the index are based at July 2003.

While this forecast is speculative it does provide some guidance as to the possible impact of the various component indices and weightings and the result in terms of the aggregate calculation.

The actual application of an index is however better applied after the period to which it relates.

Table 3. UT3 Forecast Maintenance Cost Index

		fuel	accom	consumables	labour	asset	Weighted Index
Forecast	Jul-09	146.09	149.70	127.57	130.57	100.00	125.46
	Jul-10	160.78	159.30	131.88	134.07	100.00	129.14
	Jul-11	176.76	169.46	137.04	138.55	100.00	133.60
	Jul-12	194.55	179.80	142.33	143.19	100.00	138.25
	Jul-13	214.13	191.44	147.18	147.95	100.00	142.86

6. Indices Sources

QR has proposed a series of indices in Table 4. GHD agree that these sources provide an open and transparent method of tracking appropriate movements in the cost components. We have clarified the source of data by adding "(Queensland)" into the measure as this is implied in QR's table.

We note that the 33% split for the three components of labour is arbitrary but in the absence of a more logical framework should provide a balanced index.

All indices appear to be readily available and applicable to the calculation.



Table 4. Maintenance Cost Index Component Source and Sub-Weightings

	Measure	Particulars		Issue			
Consumables Index	Non-Building Construction 18%	Name:	Output of the General Construction Industry, Index Numbers and Percentage Changes	Quarterly			
		No:	15-16				
		Ref:	6427.0				
	Basic Metal Products 18%	Name:	Articles Produced by Manufacturing Industries, Index Numbers and Percentage Changes		Quarterly		
		No:	10-11				
		Ref:	6427.0				
	Transport Equipment & Parts 18%	Name:	Articles Produced by Manufacturing Industries, Index Numbers and Percentage Changes			Quarterly	
		No:	10-11				
		Ref:	6427.0				
	Fabric Metal Products 18%	Name:	Articles Produced by Manufacturing Industries, Index Numbers and Percentage Changes				Quarterly
		No:	10-11				
		Ref:	6427.0				
Consumer Price Index 28%	Name:	CPI: Groups, Index Numbers by Capital City - Brisbane All Groups	Quarterly				
	No:	Table 5					
	Ref:	6401					
Labour	(Queensland) All Industries 33%	Name:	Total Hourly Rates of Pay Excluding Bonuses: All Sectors by State, Original (Financial Year Index Numbers for year ended June quarter)	Annually			
		No:	2a				
		Ref:	6345				
	Mining; Private and Public; All occupations; 33%	Name:	Total Hourly Rates of Pay Excluding Bonuses: Sector by Industry, Original (Financial Year Index Numbers for year ended June quarter)	Annually			
		No:	5a				
		Ref:	6345				
Construction; Private; All occupations; 33%	Name:	Total Hourly Rates of Pay Excluding Bonuses: Sector by Industry, Original (Financial Year Index Numbers for year ended June quarter)	Annually				
	No:	5a					
	Ref:	6345					
Accom		Name:		Hotels, Motels and Serviced Apartments by Tourism Region QLD (Fitzroy and Mackay District)	Quarterly		
		No:		5			
		Ref:		8635.3.55.001			
Fuel			AAA Pricing Summary Unleaded Petrol (cents per litre) (Emerald 20%, Gladstone 20% and Mackay 20%)	Quarterly			
			AIP Terminal Gate Prices Historical Averages Brisbane, Unleaded (20%) and Diesel (20%)	Daily			



7. Conclusion

QR has provided a logical and robust framework for the calculation of a Maintenance Cost Index.

We suggest that a careful monitoring of the impact of the expected changes to the proportion of labour and plant operation/asset cost be undertaken in the middle to end of regulatory period since this change will affect the weightings directly as well indirectly through expected lower routine maintenance corrective costs.



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