VALE

28 March 2013

Mr Michael Blake
Queensland Competition Authority
GPO Box 2257
Brisbane   Qld   4001

By Email: To: Michael.blake@qca.org.au

Dear Mr Blake,

QCA Cost of Capital Review – The Risk-free Rate and the Market Risk Premium

Vale Australia Pty Ltd (**Vale**) welcomes the opportunity to provide a submission on the Queensland Competition Authority's (**QCA**) review of the cost of capital methodology for regulated businesses. The QCA has released two discussion papers as part of this process and this submission deals with the paper on the risk-free rate and the market risk premium.

Vale commenced coal operations in Queensland in 2007 through the acquisition of certain coal interests of AMCI. These coal interests included two operating mines in the Bowen Basin and other coal projects that are in various stages of development. Access to, and pricing of, essential infrastructure, such as gas, water, power, rail, and ports will be critical to the continued operation and development of these projects.

Risk-free Rate

The risk-free rate as the name implies is the rate of return on an asset with zero risk. The QCA paper highlights the importance of the risk-free rate as a key component of the Capital Asset Pricing Model (**CAPM**) which is used by the QCA to determine an appropriate rate of return for a regulated firm. The paper sets out the current methodology used to estimate the risk-free rate and is seeking views by stakeholders on the three principal considerations:

(a) The choice of proxy for the risk-free asset;

(b) The period of time at, or over, which the rate is estimated; and

(c) The term, or maturity, of bond used for setting the risk-free rate.

Vale considers that a consistent approach to calculating the risk-free rate be adopted across regulatory periods, unless there is a clear demonstration that the methodology is not appropriate. Based on our review of the QCA's discussion paper, we see no apparent flaw in the existing methodology, and Vale supports the current approach adopted by the QCA of:

(a) Using Commonwealth Government Bonds as a proxy for the risk-free asset

(b) Averaging the applicable rate over the 20 trading days immediately preceding the commencement of the regulatory cycle; and

(c) Setting the term of bond equal to the term of the relevant regulatory cycle.

Vale supports the existing practice of using Commonwealth Government bonds as a proxy for the risk-free rate that is utilised in the CAPM. Vale notes and supports the conclusions that

have also been expressed by Dr Lally, which appear to dismiss each of the arguments that claim the use of these bonds is not an appropriate proxy during times of historically low bond yields.

Vale understands that certain regulated entities are seeking to change the use of Commonwealth Government bonds as a proxy because the current yields on these bonds would lead to setting a risk-free rate and the determination of a cost of equity at a low level in historical terms. That is, the current market conditions provide a temporarily unfavourable return on equity. Vale notes that no such adjustment was made when bond yields were at relatively high levels and these low yields are also being experienced by Vale. Vale notes the QCA's statement that Australian regulators have largely resisted the appeals to seek an uplift to the risk-free rate on the basis that:

(a) *Current bond yields reflect economic (i.e. demand and supply interaction) conditions in markets and there is no priori reason to believe that 'low' yields signal a 'problem'*

(b) *In terms of compensation, the more relevant consideration is potential 'under-compensation' over the life of the assets – accordingly, some regulatory cycles will result in 'overcompensation' while others will result in 'under-compensation'; and*

(c) *When market conditions were previously reversed a number of years ago – and bond yields were near historical highs – regulators did not lower the prevailing risk-free rate or market risk premium at those times, despite appeals from some users and stakeholders to do so.*

Vale also notes that the views of regulators have largely been that the current unusually low risk-free rates are forward looking and reflective of current market conditions. We would add that, given that we are referring to yields on long term bonds, the current yields reflect expectations of long term market conditions.

The second part of the methodology to determine the risk-free rate is the period of time used to average the rate. Historically the QCA has used 20 trading days and the discussion paper notes that the majority of regulators in Australia use between 10 and 40 day trading periods. The discussion paper identifies that this rate could be set using any period from an "on the day" rate through to an averaging period over several years. Vale does see the advantage of an averaging period over several years but to maintain consistency believes the approach should remain within the 10-40 trading day period generally adopted and that it should be determined well in advance of the relevant period to avoid manipulation.

The final part of the methodology to determine the risk-free rate is the term, or maturity, of the debt instrument to be used. Vale supports the practice adopted by the QCA in its recent decisions of using a term based on the term of the regulatory cycle. The discussion paper highlights that the approach to match the term of the debt instrument with the regulatory period is supported by various independent researchers including Dr Lally. Vale notes that a number or other regulators in Australia have since adopted this approach and we are not aware of any subsequent information which would indicate a sound basis for changing the approach.

Market Risk Premium

The second term in the CAPM being reviewed in the QCA paper is the Market Risk Premium (**MRP**). The MRP is the expected return on the market portfolio of risky assets less the return on the risk-free rate. The paper points out that the concept of a market risk premium is relatively straight forward, however, its measurement is not as it is forward looking and as a result cannot be observed directly. While a MRP of 6% appears generally consistent with the assessment of Australian regulators, Vale is concerned that this estimate is derived from an average of four alternative methods, and that the QCA considers that three of these methods are biased upwards.

QCA discussion paper: Page 11,

> *"the Ibbotson historical average is likely to be biased upward due to the overstated dividend yield series in the pre-1958 data and due to other factors, such as 'survivorship bias'".*

> *"the Siegel estimate will also be biased upward, as the Siegel method uses the Ibbotson estimate as its starting point".*

> *"the Cornell estimate is unequivocally biased upward as it is an 'upper bound' on the market risk premium. It is an upper bound because the long run growth rate in the aggregate dividends of all firms cannot exceed the growth rate of the economy".*

Vale does struggle to understand why an estimate derived from four methodologies, three of which are "biased upward", should be considered a reasonable estimate.

It is noted in the QCA discussion paper, and by Dr Lally, that the four methods used in the estimation of the MRP do have a degree of error and some measures are taken to overcome some of these errors. To the extent that methodologies are available to correct for the upward bias, then Vale suggests that the QCA should perform the appropriate correction.

Conclusion

Vale supports the current review of the cost of capital approach that is being conducted by the QCA and sees this as an important process that should be conducted on occasions to ensure the methodologies used are meeting the needs of the regulated environment. Vale believes a long term consistent approach to the calculation of risk-free rate and the market risk premium is important, as this is likely to reduce, in the longer term, and potential errors in the methodology. Therefore, we feel it is important that the only time a change to the methodology is considered is it the is a flaw in the approach taken.

Vale supports the current methodology adopted by the QCA to determine the risk-free rate as it believes there is no clear demonstration of a fundamental flaw in the methodology, and this has been supported by the views of Dr Lally. Vale supports the QCA methodology as current bond yields reflect economic conditions, reflect the long term life of the assets, and when market conditions were previously high they did not lower the prevailing risk-free rate.   Vale also believes the argument for consistency in approach over the life of the assets rather than a regulatory period is particularly important to this review.

Vale does have some concerns with the methodology to determine the MRP due to the perceived upward bias that has been identified in the approach. Vale suggests that the QCA should perform an appropriate correction to the MRP for this bias

For further information regarding this advice please contact myself on (07) 3136 0923.

Yours sincerely,

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Vale Australia Pty Ltd