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20 February 2017

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Dear Grant

RE: Remaining Mine Life (RML) Equation

ARTC welcomes the opportunity to reinforce the methodology upon which its RML position has been based. ARTC's position reflects the continuity of investment parameters as the foundation principle of RML which should only be adjusted upon contracted commitments reducing the stranding risk of the HV Coal Network.

ARTC defines regulatory certainty as the provision of clear, appropriate risk allocation measures promoting investment efficiency and reflecting competitive commercial realities. Regulatory certainty therefore promotes investment certainty by clearly defining risks appropriately and allocating them to the party best able to manage them. Regulatory certainty is not, therefore, continuation of a methodology which inappropriately allocates risks, delivering volatility and uncertainty to parties unable to manage them.

The 2011 HVAU was finalized in an environment that represents an historic peak in coal market pricing and optimism in respect of future growth. As noted by ARTC in its 2017 submission, this optimism was referenced by the ACCC in its findings on ARTC's stranding risk with the associated investment identified as key risk mitigants. The consequent collapse in the coal price, and failure of those critical mitigating investments to occur, therefore impacts on the stranding risk of ARTC. Decreased production rates further exacerbate this risk as it decreases the consumption of reserves. If reserves do not themselves decrease due to the price collapse, RML increases and the measure of stranding risk decreases.

The disconnect between reserves and the price collapse in the coal market implies that the current RML measure misallocates risks and therefore provides regulatory uncertainty. The discussion below reinforces the detailed aspects of ARTC's methodology in the objective assessment and allocation of the specific components that define ARTC's stranding risk and its management by depreciation (and hence RML).

As a result of the identified misallocation of risk in the current measure (and exacerbated by HRATF's proposal which transfers greater market risk to ARTC), a thorough review of the risks incorporated in the RML figure was undertaken by ARTC to provide an objective measure of those risks that are manageable by ARTC. The outcome of this is a risk allocation equation that provides the appropriate investment signals consistent with investment certainty in that it does not expose ARTC's investment returns to risks it cannot manage:

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- Reserves risk remains with the Producers;
- Market risk and short term changes in volumes remains with Producers (with an adjustment for domestic volumes); and
- License renewal (as proxy for political and/or environmental risk) for long dated mines well beyond contract expiry dates, remains with Producers;

BACKGROUND

The ARTC position in respect of RML provides investment certainty and efficiency. Continuity of a particular equation does not override these principles should that methodology be demonstrated to misallocate risk.

In the 2011 HVAU, the ACCC found that the stranding risk of ARTC was:

- Optimally managed through depreciation; as reflected in the RML calculation;
- That conservative production forecasts aligned with the contracted capacity of carriers was reasonable given the alternative would exacerbate ARTC's stranding risk; and
- ARTC's stranding risk would be mitigated through complementary investment in resource development; most especially Terminal 4 and Shenhua.

To effectively manage stranding risk, a reasonable expectation is that negative market conditions leading to a decrease in production, cancelled investment decisions and lower production would deliver a signal that the risk had increased. An outcome that increases RML delivers a signal that stranding risk has decreased. Consider an example where that increase occurs as a result of negative market conditions decreasing production, and there is no corresponding reserves reduction. Such a decrease in stranding risk is therefore counter-cyclical to market conditions and transfers market risk to ARTC; who is not in a position to manage such risks. This provides significant investment uncertainty and does not promote investment efficiency, as the measure designed to manage asset stranding risk actually exacerbates it.

This is the exact scenario in which ARTC found itself leading into the 2017 HVAU. Performance of the equation used in the 2011 HVAU (and exacerbated by HRATF's proposed amendments) therefore delivered a measure of stranding risk which is negatively correlated to market risk; transferring that market risk to the infrastructure provider. This coal market risk transfer exposes ARTC's investments to substantial volatility and uncertainty for which it is neither rewarded nor structured to manage.

Certainty in investment returns is critical for both ARTC and its customers, such that ARTC proposes maintaining the existing RML unless the equation (based on the appropriate allocation of risk) highlights that ARTC's stranding risk has reduced. This would only occur where additional investment has occurred in the system and been supported by contracts as a demonstration of the commitment. This is a signal consistent with the ACCC's historic interpretation of stranding risk; compared to a signal where market and stranding risk are counter-cyclical.

ARTC's RML position has remained consistent throughout the renewal process by focussing on the maintenance of investment certainty and appropriate risk allocation as the critical features of the management of its stranding risk. Increasing ARTC's exposure to coal market volatility is clearly inconsistent with this position and neither is it reflective of competitive commercial outcomes in similar industries (gas pipelines do not accept Upstream reserves risk or gas market fluctuations in demand on investment returns for example).

EFFICIENT INFRASTRUCTURE INVESTMENT

Part IIIA of the Competition and Consumer Act is designed to promote the economically efficient operation of, use of and investment in infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets

Development of a mechanism which returns invested capital based upon a formula which increases stranding risks in the face of industry downturns and promotes excessive volatility of that return is inconsistent with an inefficient investment framework and thus inconsistent with Part IIIA.

Efficient investment requires the appropriate allocation of risks based upon the returns earned on that investment. The critical dimension for RML equation is therefore appropriate risk allocation.

RML METHODOLOGY

The ARTC proposal on RML is centred on the provision of regulatory certainty through a consistent risk allocation based on the ability of a party to manage those risks. This need for certainty creates two clear goals for the RML formula:

- It must promote certainty and stability in investment returns; and
- It must ensure appropriate (efficient) risk allocation.

ARTC invested approximately $1.5 billion into the HVCN on the assumption of capital return over a projected 22 years, a term consistent with competitive outcomes for similar investments in other modes of energy fuel transport. Maintenance of this term is a critical feature of the ARTC proposal, unless there has been a clear change in the risk profile of the investment to warrant such a change.

ARTC does not believe there has been any indication of a positive change in the investment risk since the 2011 HVAU. There have however, been indications of negative changes through the failure of the key risk mitigating investments highlighted by the ACCC in 2011 to proceed, and the collapse in the coal price driving lower production at some mines. ARTC is therefore exposed to greater risk than it accepted in 2011 and therefore the depreciation equation must reflect increased, not decreased, stranding risks.

Based on its requirement for regulatory certainty, ARTC accepts there are benefits in the efficient allocation of risks being defined via an equation. In contrast, the current equation (and especially the HRATF proposal) misallocates risk, thereby delivering uncertainty and volatility. This misallocation ensures that the mechanism for compensating ARTC's stranding risk becomes a counter cyclical function and produces no confidence in the stability of future investments.

ARTC has analysed the risk allocation implications of the existing and HRATF RML equations. It has assessed what risks are involved and an efficient allocation for them. Where the risks identified are beyond the control of ARTC, and ARTC is not compensated for accepting such risks, those risks are removed from the equation. This has resulted in ARTC developing an equation which:

- Mitigate its exposure to reserves risk;
- Mitigate its exposure to the risk of license renewals;
- Mitigate its exposure to the contracting risks of Producers (beyond the risk it accepts in the contracts it writes) and production decisions taken to manage coal market exposures.

The ARTC methodology addresses market risk through the definition of an appropriate method to forecasting future production. Contracted capacity is the best estimate of a mine's future production given ARTC has relied on that commitment to invest in the network; and has committed itself to the provision of that capacity. This was reasonably understood in the 2011 HVAU where forecasts

reflected contracted capacity, however use of time specific production numbers as a forecast for future production, embeds market performance risk in the denominator of the RML and transfers it to ARTC.

ARTC DISCUSSION OF HRATF PROPOSAL

The HRATF proposed RML equation meets none of the principles for regulatory certainty defined above. It exposes ARTC to:

- significant return volatility as demonstrated by a 36% change in the product of the equation in a 5 month period (between February and August 2016);
- reserves risk by assuming all reserves are certain and every tonne will be produced;
- licensing and political risk as it assumes leases are always granted and renewed;
- development risk as prospective mines with no contractual commitment are assumed to be producing; and
- market risk as current production levels are assumed to apply permanently into the future (even if due to ramp-up requirements)

ARTC's methodology appropriately allocates the above risks in an objective and efficient manner to ensure parties unable (and unrewarded) to manage such uncertainty are not allocated them. This ensures ARTC's risk allocation is efficient, stable and consistent with the returns on investment. It is also entirely consistent with competitive outcomes in other fuel transport industries, where infrastructure owners do not accept risks which they cannot manage (eg reserves, license and contract utilization).

ARTC rejects HRATF's interpretation of its position as providing an absolute position in respect of the identified risks and reiterates the methodology is entirely based on risk allocation. The ARTC methodology is founded on the key principles below:

- ARTC absolutely supports the use of JORC reserves, but reiterates the JORC reserve classification represents a confidence interval which is not 100% and is lower for probable than proven reserves;
- ARTC accepts the current NSW Government process for license renewals is looking to make it more efficient; however the fact there is a process implies the outcome is not guaranteed. ARTC offers no view on the outcome of the process, just highlights this is a risk at a significant time in the future which it cannot manage and therefore is not prepared to accept.
- ARTC believes that Producers should be bound to the commitments upon which ARTC has invested; or if production is greater, to rely on these as estimates of future rates; not using current estimates as the best figure for future forecasts in circumstances where it suits or past production in others.

ARTC rejects the description of its methodology as arbitrary. It is entirely logical, consistent and objective in its assessment of risks and who should bear them. Most importantly, it produces a framework for defining investment returns which is stable, and consistent with market risks. The market risk and inherent volatility of the coal market is therefore not transferred to ARTC who cannot manage this risk.

The HRATF proposal allocates risks to ARTC which it is incapable of managing and is not compensated for whilst creating a return volatility which is inconsistent with efficient infrastructure investments. Any investment which, in the face of lower than contracted utilization due to market deterioration, results in the capital return being adjusted via a mechanism that can change by over 36% in a 5 month period, would not be approved by the infrastructure owner at the regulated levels of infrastructure return. This transfers the market risk of contracted investments from customers (who are

structured for the management of this risk) to ARTC, which is not. This risk transfer does not occur in any similar industry and should not occur here.

To further highlight the issue of stranding risk, in its draft decision on the 2010 HVAU, the ACCC found a direct relationship between the production forecasts used for the purposes of mine life and stranding risk:

The ACCC notes these figures are based on miners own production estimates and the use of higher more conservative figures should further reduce any stranding risk facing ARTC.

Shenhua Watermark's submission to the ACCC in respect of the 2017 HVAU confirms its support for HRATF's RML equation proposal, and the treatment of Prospective Mines, on the basis that "*the alternative is conservative*" (at p2 of the submission dated 13 February). Given the link between stranding risk and production forecasts, this statement implies HRATF's position rejects the need for conservative figures and therefore aims to transfer development risk through an increase in stranding risk to ARTC (with no associated compensation).

Shenhua's statement is made in respect of the treatment of Prospective Mines. ARTC would like to reiterate that it has accommodated the ACCC's request for the RML methodology to incorporate prospective mines. The method of inclusion however ensures that the development risk of a project is not transferred to ARTC such that it is included in the calculation when the development is sufficiently likely that it has received its license approvals and contracted for capacity on the network. It is only at that point that Production can be seen to be reasonable foreseeable.

Production Forecasting drives volatility

The variability of production forecasts provided by Producers reinforces the stranding risk position previously adopted by the ACCC. These production forecasts declined by 30% in a 5 month period, reflecting deteriorating market conditions. This level of volatility and market risk is an outcome that is not acceptable to ARTC and does not promote efficient investment.

HRATF argue that continuity of methodology is a critical feature of regulatory certainty. ARTC has identified above its belief regulatory certainty should be focused on appropriate risk allocation and not continuation of equations that deliver inefficient outcomes.

However, HRATF's own position implies significant changes from the 2011 HVAU methodology with the key changes embedded in the HRATF position being:

- Change from Production estimates aligned with coal chain capacity and forward forecasts to a methodology which forecasts future production rates continuing indefinitely; the impact of which is a transference of market risk to ARTC;
- Inclusion of Prospective Mines despite the firm rejection of such methodology by the ACCC in the approval of the previous methodology; the impact of which is a transference of development risk to ARTC.

HRATF's proposal therefore meets none of the identified key criteria for RML methodology as:

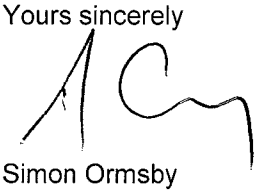
- it promotes significant uncertainty,
- triggers extensive volatility,
- transfers market risk to ARTC; and,
- does not meet HRATF's own regulatory certainty test by promoting changes to the existing formula (which exacerbate the risk transfers identified by ARTC).

In conclusion, the HRATF equation is therefore inconsistent with efficient investment and should therefore be rejected as applicable to the HVAU.

ARTC has attached a more detailed response to the arguments used by HRATF to reject its proposed methodology in Appendix 1.

For further information regarding this information, please don't hesitate to contact Jonathan Teubner on (08) 8217 4248 or by email jteubner@artc.com.au.

Yours sincerely



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ARTC

Appendix 1

Methodology	HRATF Rebuttal	ARTC response
Discount JORC Reserves by the confidence interval attached to proven and probable as ARTC should be required to accept reserves risk	JORC is a legislative requirement for listed companies and is therefore the only measure of reserves. Risk allocation argument not addressed	ARTC agrees JORC is the relevant measure but they are not 100% guaranteed to be produced. ARTC is not compensated for reserves and development risk so discount is appropriate. HRATF have not addressed this point.
Discount Reserves by 10% to reflect remaining reserves in the ground based on a study which demonstrates NSW mines average 32MT and that reserves reduce significantly as closure nears	Reserves in the ground is incorporated in the JORC estimate. This is therefore double counting.	If JORC Reserves factored in remaining reserves, these would be zero at closure. The study references JORC reserves remaining in the ground, so they cannot be factored in. The identified decline in reserves in the years before closure demonstrates an increase in certainty as the mine nears closure (reinforcing the confidence interval risk above), following which the remaining reserves are certain but remain. This therefore is not double counting. ARTC has applied a conservative methodology to accommodate this risk, referencing the 10% of reserves included in the 2011 that should have been excluded.
ARTC has significant reserves risk exposure due to the gap between Contract term of 10 years and RML term.	Producers have contracted beyond license term so have been prepared to accept this risk. 10 year rolling nature of contracts gives ARTC a forward look of a decline in contracted volume. ARTC holds a security deposit to help mitigate this risk	The security provisions do not compensate for a reserves risk of 20 years based on HRATF's submission. ARTC reiterates the gap between RML and contract term represents significant stranding risk and minimization of this risk is a requirement for efficient investment conditions.
Limitation of mine life to license life	Rejected entirely based upon the NSW process – with individual members reinforcing this by stating there is no relationship between licenses and production.	HRATF has framed this issue by interpreting ARTC's position as claiming no licenses will be renewed. ARTC rejects this interpretation. ARTC's position is that production can only occur if a mine receives the requisite license, environmental and community approvals to

		proceed provided the market conditions support the development. Management of the political, environmental and community risks for mine developments are, like market risk, all factors outside the control of ARTC. ARTC believes the transference of these approval risks for mines into the future is inappropriate given it is not rewarded for this; nor is license renewal risk accepted by similar infrastructure owners in competitive contracting environments.
Use of max of Contract or Production to numerate the reserves	JORC compliant production reports are the only relevant figure for determining future production. Contract rates are irrelevant as it is perfectly logical given timelags that these will be different.	HRATF argue that contracted rates, freely entered into by Producers and representing the commitment by ARTC to those Producers, are irrelevant in determining future production. ARTC contends that contract volumes are: • the critical measure of network capacity which underpins the management of the system; • the commitment that ARTC has made to Producers and therefore the capacity it makes available; • the only stable, long term measure of future production that has been agreed by both sides HRATF's Production logic reflects that the best forecast for future production is current production. Market conditions at the forecast time are therefore assumed to hold into the future. Decreased market conditions lead to decreased production and, assuming constant reserves, increased RML. ARTC's stranding risk is therefore a direct function of prevailing market conditions, and provides a counter-intuitive outcome where deteriorating market conditions lead to decreased stranding risk. Exposure to at the time forecasts also provides significant volatility in the outcome. Changing production

		forecasts have been the main driver for the volatility in HRATF's position, with the figures used in Feb 16 changing by 30% to August 16 contributing to the 36% change in RML. HRATF suggest contracts are irrelevant because of a gap between contract and actual production due to ramp up volumes. HRATF's example therefore embeds the ramp-up level at a point in time for the life of the mine. However, if the mine is ramping up to full production, its production will increase over time until it reaches its target production (presumably the capacity it has contracted for). HRATF's methodology does not account for this increase, embedding production forever at the ramp-up level and ignoring future increases in the same way improved market conditions yield higher production. The HRATF example therefore confirms the impact of this methodology is to shift market risk onto ARTC ARTC's position is to therefore embed the sanctity of the contracts in determining future production, and accommodating the reality of non-railed domestic production to accommodate non contracted production.