MATCHING CONTRACT STYLE TO YOUR BUSINESS

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1 INTRODUCTION

There is a veritable smorgasbord of Contract styles under which one may execute a mining contract. Before looking in a little detail at the options, it is probably worthwhile remembering what the contract is trying to achieve for each party – who, not surprisingly, have somewhat different objectives and goals.

2 WHAT ARE THE GOALS OF THE CLIENT AND CONTRACTOR?

2.1 CONTRACTOR GOALS

1. Minimisation of risk of not generating acceptable return ROCE and/or Margin on turnover);
2. Minimisation of risk of providing grounds for termination;
3. Uncomplicated and good working relationship with client;
4. Avoidance of disputes;
5. Maximisation of contract variations and opportunities;
6. Maximisation of Dayworks wherever possible;,
7. Meet/exceed contract performance criteria to position the business for contract extension or other business opportunity;
8. Keep assets employed on a cash positive basis;
9. Maximise the utilisation of income generating assets; and
10. Nil fatalities, minimise LTIFR and other performance indicators

2.2 CLIENT GOALS (IN ALL CONTRACTS)

1. Avoidance of project risk by having firm mining unit costs;
2. Achievement of Budget or Feasibility Study unit costs;
3. Avoidance of contract variations;
4. Contractor liable for non-performance;

5. Guarantee of mining schedule and certainty of product delivery schedules.
6. Guarantee of mining and product specification
7. Avoidance of disputes, whilst:
8. Having opportunity to decrease rates in the future;
9. Maintaining an uncomplicated and good working relationship with contractor.
10. Achieving nil fatalities, minimising LTIFR and other performance indicators

3 THE CONTRACT DOCUMENT

It is also worthwhile commenting (from experience) about what a good contract document should address, and when it should be used.

3.1 WHAT KEY ISSUES SHOULD A CONTRACT DOCUMENT ADDRESS?

- Responsibilities of each party;
- Payments – value, basis, variations;
- Dispute resolution;
- Contract management;
- Measurement and reporting (physical and Key Performance Indicators);
- Termination and default;
- Scope of work;
- Mechanisms for change; and
- Avoidance of ‘grey areas’.
- Standards and specifications
- Schedules and time frames of deliverables
- Mechanism for identifying, registering and valuing delays
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3.2 WHAT SHOULD THE CONTRACT DOCUMENT ACTUALLY GET USED FOR?

- To define the extent (Scope) of the Works;
- To clarify who provides what;
- To calculate the basis for all payments;
- When there is a dispute;
- When there is a change in scope of work;
- As required in the contract management process; and

- In case of termination.

4 CONTRACT STYLES

There is no "right" contract style for all situations. The style of contract at any operation will be a function of some or all of the following:

- How well defined is the mining scope;
- Mining contract management skills of client staff;
- Reputation and capability of the Contractor;
- Contract duration
- Amount of "unknowns" for which risk must be managed; and
- Requirements of the financiers for a project.

Typical mining contract styles that have been used, and their key differentiators, are listed below:

1. Traditional "risk transfer" – lump sum, schedule of rates;
2. Payment of fixed costs and variable cost schedule of rates;
3. Partnering – "risk transfer" combined with commitments to shared objectives;
4. Cost-plus;
5. Cost Reimbursable Performance Incentive (CRPI); and
6. Project Alliancing – Project costs reimbursed on open book basis.

Table 1 summarises the key differentiators between the common styles of contract.

Table 1
Key Differentiators between different Contract types

Contract type	Key differentiators
1. Traditional "risk transfer" – lump sum, schedule of rates	1. Quantities clearly defined. 2. Conditions clearly defined. 3. Limits clearly defined. 4. Responsibility for non-performance totally with contractor. 5. Variations a norm. 6. Adversarial – "master-slave" relationship. 7. Potential for conflict. 8. Termination can be costly and time consuming 9. Rarely water tight
2. Payment of fixed costs and	1. Quantities may vary.

variable cost schedule of rates	2. Conditions not able to be clearly defined. 3. Responsibility for non-performance remains with contractor. 4. Client risk for wet weather and free dig/drill and blast costs. 5. No standby – fixed costs covered. 6. Variations minimal. 7. Non-adversarial, but risk for contractor to overcharge client. 8. Disputes can arise over resourcing levels
3. Partnering – "risk transfer" combined with commitments to shared objectives	1. Quantities may vary. 2. Conditions not able to be clearly defined. 3. Responsibility for non-performance shared. 4. Client risk for wet weather and free dig/drill and blast costs. 5. No standby – fixed costs covered. 6. Variations still a norm. 7. Less adversarial than Type 1.
4. Cost-plus	1. Quantities may vary. 2. Conditions not able to be clearly defined. 3. Responsibility for non-performance with client. 4. Client risk for wet weather and everything that goes wrong. 5. Standby – fixed costs covered. 6. Variations still a norm – but based on actual costs not unit rates. 7. Non-adversarial but not recommended. 8. Administration can be difficult 9. Termination relatively easy
5. Cost Reimbursable Performance incentive (CRPI) – Rewards for exceeding target outcomes	1. Quantities may vary. 2. Conditions not required to be clearly defined. 3. Responsibility for non-performance with client. 4. Shared gains for above target performance. 5. Critical to be able to define targets for both parties. 6. Non-adversarial but requires trust and/or strong site management.
6. Project Alliancing – Project costs reimbursed on open book basis	1. Quantities may vary. 2. Conditions not required to be clearly defined. 3. Critical that "Open Book" is clearly defined (Granny Smith story). 4. Minimal risk for contractor. 5. Reduced margin for contractor versus risk-transfer alternatives. 6. Requires trust between both parties. 7. Non-adversarial.

5 RISK IDENTIFICATION

In any mining project, there will be risks at the time of tender with regard to many parameters. These risks may be grouped as follows:

Technical Risks

- Latent conditions (actual different to predicted);

- Changes to scale of operations (expansion, contraction);
- Lack of equipment worldwide;
- Changes to scope (mining sequence, process); and
- Poor workmanship (eg fragmentation in blast designs).

Other Risks

- Market movements (eg. commodity prices, exchange rates)
- Political or sovereign (changing political climate in the case of a third world country when the contract is established)
- Industrial disputes;
- Skill shortages (at all levels);
- Bankruptcy of contractor or client;
- Changes to tax or other relevant legislation;
- Failure to perform to contractual obligations;
- Termination without cause; and
- Acts of God.

I will not cover these items in detail, as they are adequately covered in other papers at the conference. However, I will discuss the relevance of these risks in the selection of the correct style of contract for an operation.

Technical and Other risks vary from project to project and arise because not all the facts were known at the start of the project when contracts were being negotiated and awarded, or circumstances changed. For example, despite careful geotechnical investigations, the contractor may strike hard rock earlier than expected. Depending upon the form of the contract, any and each risk may be undertaken by the Owner or by the contractor.

The key to successful sharing of contractual risk is the identification and assessment of the risks for each project during the project formation process and the correct allocation of risk to the most appropriate party. Of course, the risk identification process can itself be contracted and managed by a third party, to ensure that there is a reasonable chance that nothing untoward will then be encountered during the course of the contract.

The contract document must then reflect the WAY in which the identified risks are managed or shared. Finally, the operational need to maintain and if necessary modify the arrangements should be embodied into the contract and become a part of the administration of the contract.

6 RISK MINIMISATION AND CONTRACT STYLE

Clearly part of the problem about selecting the correct contract style is that at the time of tendering, the preliminary selection process is generally made on the basis of pricing to a Schedule of Rates. Unless a pre-selection process has been undertaken and only one or two contractors are considered, it is difficult to manage the tender process with more sophisticated contract styles.

Assuming therefore that a short-list or preferred contractor status has been established, a procedure can be followed to start the contract style selection process:

1. Each technical and non-technical risk is identified in a joint environment, analysed to determine it's ranking, and whether it should be allocated to the contractor or to the owner;
2. A matrix can be developed which provides for an assessment of project risks and other items which measure the maturity of the partners with regard to the contract process; and
3. Decisions can then be made in a semi-quantitative way of the style of contract which matches the risk assessment and other factors.

Figure 1 shows an example of a risk matrix which the author has used as a guide for an owner in choosing between a risk transfer and a risk embrace approach. By testing the project circumstances against a number of criteria (arbitrarily weighted) a suitability score between one and 10 is developed.

PROJECT ANALYSIS FOR CONTRACT vs OWNER

	Item	Weight	Low	1	2	3	4	5	6	7	8	9	10	High
Project Data														
	Country of Operation - PRI Level	0%	Low											High
	Common or Civil Law	0%	Common											Civil
	Probable Mine Life	0%	Doesn't Matter											Critical
	Likelihood of changes to throughput rates	0%	Low											High
	Greenfields location	0%	Mature Environment											New Site
	Orebody geology well defined	0%	Mature Environment											New Site
	Single or Multiple orebody styles	0%	Single											Multiple
	Single or multiple pits	0%	Single											Multiple
	Geotech issues	0%	Well Defined											High Risk
	Dewatering	0%	More complex											Simpler
Client Data														
	Client previous OM experience	0%	High											Low
	Client previous Owner Mtce experience	0%	High											Low
	Client Turnover as % Revenue from Project	0%	+ 500%											= 100%
	Client Asset backing	0%	High											Low
	Risk Profile	0%	Accept Risk											Risk Averse
	Previous user of Contractors	0%	No											Yes
Contractor Data														
	Previous experience in Country / Region	0%	Nil											Experienced
	Contractor Turnover as % Revenue from Project	0%	= 100%											+ 500%
	Last Annual Report Profitability % Turnover	0%	< 5%											> 15%
	Contractor record re Litigation	0%	Litiguous											Non-litiguous
	Contractor Balance Sheet (% Turnover from Proj)	0%	<= 100%											=+500%
	Availability of Suitable (Competent) Contractors	0%	Low											High
Other Data														
	Likely Project direction:													
	Significant Upside potential / expansion?	0%	High Potential											Low Potential
		0%	TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Total = 0

Figure 1 Contract Style Matrix

Note the weightings assigned will depend on what is viewed as critical to the Owner in relation to its operation. A sum of less than three suggests a hard-$, risk transfer approach should be used. A score above seven indicates a partnering style model should be used. In between these numbers, some variations from the hard $ approach should be considered. In using the matrix for a particular project, an owner should take the following steps:

(a) Amend, replace or add to the standard questions as necessary to tailor it to the particular circumstances.

(b) Assign weightings (before inserting any ratings).

(c) Insert a rating in answer to each question.

However, the suitability matrix is only intended to serve as a rough guide and not as a substitute for a proper analysis of all factors. The following section discusses some of the strengths and weaknesses of Risk-transfer and Risk-embrace contract styles.

7 CONTRACTING STRATEGY

At the onset of a project the owner owns the inherent risks. He can choose to transfer those risks to the contractor (and accept that the margin applied by the contractor will be high) or accept some of the risks and expect a reduced price as a result.

7.1 TRADITIONAL RISK TRANSFER APPROACH

The traditional risk management strategy adopted by owners is to transfer as much of the risk as possible to others, as shown in Table 2.

Table 2
Risk Transfer Model

Party	Risks Accepted
Owner	As little risk as possible
Insurance	Against catastrophes
Consultants	Design issues / reserves
Contractor	Everything else

This traditional risk transfer approach is typically evidenced by lump sum contracts. In schedule of rates contracts, the owner retains the risk on quantity variations outside specified limits of accuracy while the constructor assumes all other performance risks.

These traditional risk transfer models have served the industry well for many years because in most cases they have been appropriate for the circumstances. No doubt they will continue to be the dominant contracting model well into the future. However, nowadays more and more projects have to be delivered in an environment of uncertainty - driven by diverse stakeholder interests, shifting business or political imperatives and rapid technological change. The risk-transfer contracting models have increasingly been shown to be inadequate to deal with these circumstances. As a general guide the risk transfer approach may be seen to be appropriate if the following four tests are satisfied:

1. Premiums for risk included by various risk-takers in their prices are not disproportionately high for the real level of risk involved.
   [This test will nearly always be satisfied in a free and mature competitive construction market such as exists in Australia. The more normal problem is that the risk-takers do not make adequate provisions for the risks they are supposed to assume].

2. Risk-taker has the financial capacity to absorb the risks should they unfold.
   [A competent selection process should ensure that this test is satisfied.)
3. The contractual arrangements leave no room for risk taker to claim recovery from the owner if the risks do unfold.
   [Experience has shown tight contract conditions are no guarantee the owner will be immune from claims. This test is not that easy to satisfy beyond doubt.)
4. The misalignment of commercial interests created by the win-lose risk transfer model does not give rise to such an adversarial environment that the key objectives of the project are jeopardised.

It is usually the fourth test that cannot be satisfied. The tendency is for the clients and contractors personnel to be devoted to protecting positions when they should be focused on finding the best solution for the project. The result is adversarial conduct caused by situations that arise are likely to be win:lose - for the contractor to get what it wants the owner has to lose (and vice versa), in addition to claims, cost blowouts and, in more extreme cases, arbitration or litigation - poor outcomes for all parties.

7.2 THE RISK EMBRACE APPROACH

The rationale for an owner to adopt any type of risk-sharing collaborative approach is that under certain circumstances the owner can better manage its risks by embracing them (rather than simply trying to transfer them) and managing them within a flexible cooperative project delivery environment.

Where the scope of work and the risks are well defined, the traditional risk transfer approach will generally deliver the best value to the owner. Where there are many unknowns and the risks are ill-defined, a risk embrace approach will usually be more appropriate. The risk-embrace options include the following:

7.2.1 The fixed plus variable cost contract

Given the shortcomings of the cost plus model, an alternative contract type where the contract specifications or options are not well defined is possible. In this model the contractor splits its tender costs into the following components:

1. A fixed component which covers the contractor ownership costs (depreciation, insurance and interest on loans), plus the labour cost associated with the activity being priced; and
2. A variable component dependent on the equipment hours operated and covering all costs other than labour associated with the derivation of the unit costs.

The major benefits of this contract style are:

1. **Contractor**
   While the fixed component may not cover all the cash flow issues for a contract (remembering financing costs may be higher than depreciation allowed but will not last for the total duration of the contract) but will cover a substantial portion regardless of material movement.

2. **Owner**
   For the owner, if there is a high probability of upside rather than downside potential for a project, then the unit costs for the project will be reduced. If there are significant delays or under-performance possibilities, then the costs will be high as much of the risk has been retained.

7.2.2 The cost plus contract

An owner can overcome these downsides and secure non-adversarial conduct by adopting a cost plus model where the contractor (designers and/or constructors) are reimbursed all project costs (on an open-book basis) and are paid a mark-up to cover corporate overheads and profit.

In a perfect world this would seem to be the best form of cooperative model for a complex, fast-track and high-risk project. The contractors will almost certainly be flexible, responsive and non-adversarial - since they are recovering their costs plus a margin on all work they do, why wouldn't they be?

However experience has shown this approach leads to less than optimum efficiency and cost blowouts. The interests of the parties are still not aligned - the more the project costs, the greater the return for the contractors. The owner has replaced the efficient but adversarial culture of a risk transfer model with a non-adversarial but inefficient "B" team culture - equally unacceptable.

7.2.3 Cost reimbursable performance incentive (CRPI)

In an attempt to secure cost plus levels of cooperation while maintaining high levels of efficiency and A team performance, a number of companies have turned to cost reimbursable performance incentive (CRPI) models. Under a CRPI model the owner and the contractor agree on a target cost and a target schedule to complete the work. The contractor is then compensated under a three-limb compensation model as follows:

Typically the primary commercial driver is sharing of cost savings and this is usually (but not always) on a 50:50 basis. The commercial interests of the parties remain closely aligned as long as there is a prospect the agreed targets can still be bettered. It is in the interests of both parties to perform well as they both have a share in the benefits of improved outcomes. However once it is perceived the targets can no longer be bettered then the only feature that distinguishes CRPI from a pure cost plus model is the fact the contractor receives no mark- up on cost overruns.

The CRPI process is supposed to be conducted against the background of a vigorous campaign to develop and improve the relationship between the contracting parties, using all the partnering tools.

7.2.4 Partnering and Alliances

There was a surge of interest in partnering when it was first introduced into the Australian construction industry in the early 1990s. However industry feedback on the experiences of partnering to date is mixed. In summary, there are:

1. Many examples where partnering is acknowledged to have improved the standard of project administration and delivery.
2. Numerous examples where both parties have expressed great cynicism about the genuineness of the process based on their experiences.
3. A few notable cases where partnering seemed to do nothing to alleviate adversarial conduct but increased the associated level of bitterness.

The overall mixed performance of partnering is perhaps not surprising because it has both an upside and a downside. The upside is that partnering by definition encourages the parties to focus on relationship issues and provides tools for better communication. Enhanced communication is

likely to improve the performance and quality of output of any project-based organisation. This factor alone would account for the good results that have been achieved.

On the downside, partnering tries to impose a culture of win-win over the top of a commercial and contractual framework that remains inherently win-lose. The verbal commitments during the partnering process, even if genuine at the time, are not enough to withstand the stress imposed by gross misalignment of commercial interests.

These forms of contract will be discussed in more detail during the conference.

8 SUMMARY – SOME GOLDEN RULES

Some food for thought for selecting the best style of contract for your situation:

1. Your first operation – don't get fancy and stay with risk-transfer!
2. Your first overseas operation – stay with risk transfer, and also make sure the contract is well written and clear.
3. Strong and mature contract management personnel within your organisation – consider risk embrace.
4. Mature contractor – consider risk embrace.
5. Contractor has history of litigation – err towards risk transfer and make sure the contract is well written!
6. Strong balance sheet – you can be flexible.

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