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**A Practical Guide to Achieving Outstanding Performance from
Alliance Contracting**

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1 INTRODUCTION

This paper has been prepared to provide some background on the matters that will be discussed in the workshop on September 20 2006.

The topics covered in this paper are:

- Relationship contracting;
- The origins of the project alliance contracting approach used in the Australian construction industry
- Deciding if an alliance is appropriate;
- New advances in alliancing;
- Options in alliancing;
- People management in alliances;
- The partner selection process; and
- Risk reward models.

The two accompanying papers prepared by Freehills address selected legal aspects of the alliance approach.

2 RELATIONSHIP CONTRACTING

2.1 Definition

Relationship Contracting is not a particular form of contracting, it is a term applied to contracts that create a legal and commercial framework that enables the parties to work together to achieve mutually beneficial outcomes. A general definition of Relationship Contracting is:

“Relationship Contracting strategies are arrangements that provide a legal and commercial framework that enables organisations to work together to achieve mutually beneficial outcomes”.

Alliancing is the purest form of Relationship Contracting and in alliances the commercial outcomes for all parties is directly linked to their success or otherwise in achieving the project objectives. Alliancing has a relatively short history in the construction industry. A brief outline of its origins is given in the Section 2.2 below.

Application of alliance contracting in the Road Industry

Road agencies in all mainland states of Australia are adopting the principles of relationship contracting to deliver their infrastructure projects. These road agencies adopted project partnering in the early 1990's and started to adopt the alliance approach in the mid 1990's.

The Queensland Department of Main Roads was the first to use the alliance contracting strategy and has successfully completed projects with an aggregate value of over \$1 billion dollars using the alliance approach. In Western Australia we currently have alliance projects with a combined value of \$750 million in various stages of development and execution. The alliance approach is also used by the Road Transport Authority in NSW, with the \$800 million Hume Highway project being delivered as a pure alliance. Vic Roads is also using the alliance approach on a complex road project that is being undertaken in difficult circumstances. All completed and current road projects that have adopted the alliance approach have delivered or are on track to deliver excellent project outcomes.

2.2 History

2.2.1 Need for change

The construction industry has long been plagued by high levels of disputation, wastefulness and poor productivity. Reports and enquiries undertaken in the United Kingdom as early as 1964 (Banwell Committee) and again in 1994 (Latham) found clients were routinely dissatisfied with the time and cost overruns of projects and the quality of the finished product. In addition to client dissatisfaction, the industry was found to be plagued with high levels of disputation and low levels of productivity. The traditional procurement strategies and the adversarial terms and conditions of the contracts being used in the industry were identified as a key cause of these problems. The findings of the 1990 Gyles Royal Commission into Productivity in the Building Industry in Australia reported similar findings and revealed an industry beset with adversity, conflict and unacceptably low productivity, with cost overruns of 50% occurring on major projects. The situation did not seem to improve during the 1990's. A survey of 34 major public and private industry clients in the construction industry undertaken in 1999 found the traditional contracting systems often lead to adversarial relationships and overruns in cost and time.

The high levels of disputation and intra-party claims being experienced by clients and contractors using the conventional forms of contract was seen as the catalyst that led project sponsors and contractors to look for more productive ways of delivering their projects. Parties on both sides of contracts began to realise that the effort and cost being put into disputes and claims was counterproductive and that a change in approach was needed.

The conventional approach to the procurement of construction services was characterised by single point accountability, a stratification of services, (where each phase is discretely separated and carried out by different service providers), with little or no integration between the service providers from one phase to the next, led to a fragmented procurement process. The result is a procurement processes with many interfaces, not only between the client and the key service providers, but between the service providers themselves. The management

of these interfaces proved to be difficult and the conventional contracting strategies used did not provide mechanisms for the development of shared goals and objectives or effective communication. The contracting relationships used in these transactions focused on selecting service providers on price with clients prescribing rigid processes and specifications that the service providers must follow. Clients also assigned risk and liabilities inappropriately and did not always clearly define the nature and scope of the services to be provided. Contractors accepted this state of affairs and continued to operate under contracting arrangements that stacked the odds against them and when projects did not go as planned they sought relief through the contract leading to claims and disputes.

Both clients and contractors began to notice the benefits that were being enjoyed on projects that used Partnering and project alliancing. They were able to see the benefits an integrated team approach that spanned all of the key design and implementation phases of projects were delivering. This led to many large organisations and government agencies adding Partnering and project alliancing to their suite of procurement strategies.

2.2.2 Current situation

Shortage of skilled resources

The construction and infrastructure industry in Australia is experiencing an acute shortage of skilled professional and trade resources. In a recent survey of the pressure points in the Australian construction industry commissioned by the Australian Constructors Association (ACA), 115 of the 183 industry respondents cited the shortage of skilled resources as the single most critical challenge confronting the industry (Blake Dawson, Waldron 2006). Skilled personnel have either left the industry or joined the mining industry. The egress has been attributed in part to the project by project employment practices adopted by the industry. Another finding was there are inadequate numbers of students taking up construction related courses at the tertiary or trade levels. These factors along with the current resources boom has meant design consultants and construction companies are finding there is no longer a pool of experienced people available to choose from when they win a project.

Inappropriate risk allocation

Principals in Australia have a tendency to transfer whatever risks they can onto the contractors, who in the past have accepted them and promptly passed them onto their subcontractors. This practice passes risk down the supply chain to parties who are not equipped to manage them and when risk events do occur the whole project can be put in jeopardy.

Inappropriate risk allocation is a major contributor to the high level of disputes that has plagued the construction industry for the last two decades (Whiteley 2004).

Use of inappropriate contracting strategies

Principals in Australia do not select contracting strategies that are appropriate for the project (Blake Dawson Waldron 2006). They simply rely on past experience and apply the same strategies they used on previous projects with little or no regard as to whether they adequately deal with project risks, scope changes, constraints (time, cost, resources) or enable the most effective relationships to develop between the parties. This practice does nothing to reduce the high levels of disputation in the industry.

Retention of staff

Construction companies are finding it increasingly difficult to retain staff. Experienced professionals and tradespeople are being attracted to the mining industry, primarily because the mining companies are able to offer higher salaries and better employment conditions. The shortage of skilled resources has contributed to this situation.

There is also a movement of staff within the industry itself. The boom conditions have made it difficult for organisations to secure staff for their projects through normal channels, leading to an increase in poaching.

Poor project definition

The skills and resource shortage is having an impact on client organisations' capacity to prepare clear, concise and complete tender documentation. Clients and their consultants are finding it difficult to attract suitably qualified staff to properly develop projects and to prepare project documentation. They are putting tender documents to the market that are incomplete or contain unreliable information. This makes it difficult for tenderers to properly assess the project's risk profile and to therefore submit robust and reliable tenders, especially when they are given limited time to prepare tenders.

Inadequate project development and poor documentation is forcing clients to issue addenda and variation requests and contractors cited clients' propensity to continually change their requirements during the tender phase of a project as a major pressure point (Blake Dawson Waldron 2006)

Industry capacity

The construction industry in Australia has until recently been highly competitive. Contractors' margins have not adequately covered the risks they have been accepting and a number of major companies have failed or have sold their interests to larger organisations. This is affecting competition resulting in low numbers (in some cases none) of tenders being submitted for infrastructure projects. This has resulted in a far from competitive market and upward pressure on infrastructure delivery costs.

2.3 Development of relationship contracting

2.3.1 Partnering

Partnering was developed by Colonel Charles Cowan from the US Corp of Army Engineers in the early 1980's as an attempt to reduce the high levels of claims and disputation that was being experienced on their projects.

Partnering involves key members from each of the parties to the contract participating in a workshop to develop a set of governing principles, commitments and issue resolution processes. These are captured in a Partnering Agreement or Charter that is signed by all the attendees.

Projects that adopted the Partnering approach delivered improved outcomes and the early Partnered projects were dispute free. The early success of Partnering led to its use spreading to the private sector both in the US and internationally. Partnering was introduced into Australia in the mid 1980's.

Although Partnering did deliver improved project outcomes and the incidence of claims and disputes was significantly reduced, it did not always work as intended. The Partnering Agreement overlays a traditional adversarial construction contract and it is not a legally binding agreement. When projects come under stress and one or both of the parties decide to exercise their contractual rights, it is the terms and conditions of the contract that apply, not the Partnering Agreement. As Partnering became more widely used it started to be misused by some clients and contractors. Situations arose where the parties elected to or needed to set the Partnering Agreement aside and use the terms and conditions of the underlying contract to resolve the matter of difference. This often led to the parties reverting back to the old ways of claim and counter claim and as a consequence the concept of Partnering was being questioned. The breach of trust that occurred in these situations had the effect of hardening the respective positions of the client and contractor. A new approach was needed to recapture the progress made when Partnering was first introduced.

2.3.2 Alliances

The basic principles of Partnering were used to develop more robust forms of relationship contracting arrangements. These arrangements started to link remuneration to actual project outcomes (that included non cost outcomes) and to make the behavioural commitments binding. This change was led by the oil and gas industry where its success led it to being adopted by the general construction industry.

The first projects to be delivered as alliances were the BP Andrew and Cyrus oil and gas field developments in the North Sea. BP was under pressure to develop marginal fields and needed to reduce development costs. Attempts to reduce development costs by rationalising traditional design and construction approaches did not get costs down to the levels required.

In 1992 a project team within BP abandoned the traditional adversarial design and construction strategies and developed a relationship based contracting strategy. This strategy brought designers, constructors and suppliers together into one integrated project team with the client. They did not use price as a selection criterion, but instead assessed the proponent's demonstrated ability, capacity and commitment to achieve a set of Minimum Conditions of Satisfaction. The contracting arrangements they developed are widely acknowledged as being the first project alliances. Cyrus was a small project and was used as a test case for the much larger Andrew project. These projects delivered outstanding results for all of the parties in the alliance. The success of the Andrew and Cyrus projects prompted Ampolex and Western Mining to use the alliance approach on the Wandoo and East Spar oil and gas field developments in Western Australia. Both of these projects delivered outstanding results.

Government in Australia then took up the challenge adopting the alliance approach on the Northside Storage Tunnel project in Sydney (early 1998), the National Museum Project in Canberra (mid 1998) and the Woodman point Wastewater Treatment Plant in Perth (late 1998). The use of alliances has continued to grow and it is now a standard project delivery option for government agencies across Australia.

Definition

Alliance contracts are often referred to as Relationship Contracts and they are underpinned by the principles of equity, trust, respect, openness, no dispute and no blame.

Project alliances are incentive based relationship contracts in which the participants agree to work together in a relationship that is based on the principles of trust, equity and no blame. In project alliances, organisations and people work together as one integrated team that aims to achieve outstanding results for all participants, (and stakeholders), and all participants are bound to a risk/reward scheme where they all share savings or losses, depending on the success or otherwise of the project.

2.3.3 Attributes

Relationship Contracts have attributes that clearly differentiate them from more conventional adversarial forms of contract.

Relationship Contracts are non adversarial contracting arrangements that provide the parties with the flexibility and incentive to work together to deliver optimal outcomes (commercial and non commercial) for all parties. They are based on the principles of equity, trust, respect, openness, no dispute and no blame. These principles are written into the legal agreement, which is jointly developed by the parties. The legal and commercial framework not only enables the parties to work together to achieve the project objectives, it rewards all

parties for achieving better than expected outcomes. There are disincentives to perform poorly and if the project performs poorly, all parties share the losses equitably.

The key attributes of the alliance approach are:

- i. A primary emphasis on achieving the project/business objectives of all parties;
- ii. The alliance governance framework (Board/Alliance Leadership Team, Alliance Management Team);
- iii. The open book approach to management and administration;
- iv. Risk is shared and jointly managed;
- v. The use of facilitative management processes and systems;
- vi. Clear understanding of individual and collective responsibilities and accountabilities;
- vii. An equitable balance of risk and reward for all parties;
- viii. Encouragement to develop and apply innovative approaches and achieve continuous improvement;
- ix. Access to and contribution by the expertise and skills of the parties; and
- x. A commercial basis which offers the opportunity to achieve rewards commensurate with performance.

3 DECIDING IF AN ALLIANCE IS SUITABLE

Before deciding if the alliance contracting strategy is suitable for a particular project, the client needs to fully understand the business objectives being served by the project, the external environment in which it will operate and the type of relationship they want to have with the parties they engage to deliver the project.

3.1 Business objectives

Projects are undertaken by organisations to achieve their vision, mission and the associated goals and objectives.

The business objectives can be purely economic or they can incorporate social and environmental objectives.

From a business perspective alliances are suitable for projects that:

- Have tight or capped budgets;
- Need high levels of cost certainty;
- Require flexibility in the cash flow;
- Have tight or optimistic schedules;
- Need to be started urgently;

- Have a fixed and immovable end date;
- Face significant design and or construction risk;
- Face risks that have high consequential costs if they occur;
- Involve the development of new technologies (R & D);
- Require the use and implementation of new technology;
- Are on brown field sites or in operating facilities;
- Are not well defined (the scope is not well defined);
- Are problematic and the solution is not apparent or has not been decided;
- Require innovation to succeed;
- Require a high quality product or high standards of service; and
- Require high levels of cooperation between the client, contractor and other service providers;

In addition to the above the alliance approach is appropriate where:

- The client is committed to the alliance approach and is prepared to trust the alliance partners;
- The client has appropriate people available to sit on the alliance Board and take up positions in the Alliance Management Team;
- The project is strategically important;
- It is in the clients long term strategic interest to build a strong relationship with the alliance partners;
- The client has the expertise to provide positive input into the project;
- There is a desire to use the project for corporate and staff development; and
- The client wishes to significantly reduce the risk of contractual disputes and eliminate claims.

3.2 External environment

External social, environmental and economic conditions also influence the decision to use an alliance. Alliances are suitable for projects that:

- Have triple bottom line objectives that reach beyond the asset or service being delivered (e.g. infrastructure development projects);
- Face significant external stakeholder opposition and there is a need for the client and its contractors to work as one united entity to deal with the issues;
- Present opportunities to undertake legacy projects in parallel with or as part of the project;
- Are exposed to sensitive environmental issues; and

- Are undertaken in a buoyant market where there is a high demand on design and construction resources;

4 EXAMINING NEW ADVANCES IN ALLIANCING

Project alliancing is evolving and because of the unique nature of projects, the alliancing approach will continue to evolve.

Alliancing is now being used to deliver single projects, programs of projects and bundles of projects. Alliances are also used to provide operation and maintenance services for government agencies and resource companies.

Another approach that is being developed is the Early Contractor Involvement strategy.

4.1 Single projects

New advances in single project alliances centre on the selection process, insurance and the terms and conditions of alliance agreements.

Selection process

As client organisations become more experienced in alliancing they are able to provide informed input into the selection process. The things that led to changes in the selection process are:

- Lessons learned from previous alliance projects;
- The amount of project development work undertaken by the client;
- The level of alliance expertise inside the client organisation;
- The need to fully test the proponents (to go beyond coaching); and
- The need to address special project, client or stakeholder requirements.

Insurance

The insurance market is starting to respond to the demand for alliance specific insurance products and is offering alliance specific policies. Professional Indemnity insurance has always been an issue in alliances, but now the market is starting to offer alliance specific Professional Indemnity policies.

Terms and conditions

At the present time there are no alliance specific or relationship based Australian Standard terms and conditions of contract. It may only be a matter of time before there will be an Australian Standard set of alliance contracting terms and conditions.

Alliance contracts are continually evolving to incorporate lessons learned and the developments in the alliance contracting strategy (e.g. variations in the selection process). However in general alliance contracts are founded on the same principles and various law

firms are developing reasonably standard sets of terms and conditions of contract for alliances.

4.2 Programs of projects

Some clients are using alliances to upgrade a number of similar assets as a program of projects over a defined period of time.

By using an alliance the client and contractor are able to manage cost risk and lessons learned from projects in the program and these can be applied to subsequent projects.

This approach offers benefits to all parties, such as:

- Flexibility to vary the program;
- Secure and stable work for the non owner participants;
- Opportunity to build a strong and synergistic relationship between the parties in the alliance;
- Opportunity to cross train staff;
- Ability to incorporate new technology;
- Lower up front procurement costs (for all parties);
- Opportunities to leverage off sub alliances;
- Economies of scale in plant usage; and
- Opportunity to amortise specialist construction plant and equipment over a longer period of time.

4.3 Bundled projects

Bundling is similar to programs of projects, but is extended to include projects of similar scope (e.g. wastewater treatment plants), projects in the same industry or scheme (e.g. a water supply scheme) or projects in the same geographic location.

Bundled projects can be programmed to be delivered over an extended period of time (10 to 15 years) or over a 3 to 5 year period. Various forms of alliance contracting strategies are used, from strategic alliances for the long term bundles to pure alliances and cost competitive alliances for the shorter term bundles.

4.4 Early Contractor Involvement

Early Contractor Involvement (ECI) is a two staged process. The first stage involves the early engagement of the delivery team to develop the scope, design, price and contractual terms and conditions. The first stage is an alliance style arrangement where the contractor and designer are reimbursed their costs and paid an agreed profit and overhead.

The second stage is more a conventional design and construction construct style contract. The client treats the contractor and designer as independent contractors and the contractors takes all responsibility for delivering the project for the agreed price.

4.5 Operation and maintenance works

Organisations across Australia are using alliances to deliver their operation and maintenance services. Alcoa started to use the approach at its plants in WA in 1990 and Woodside followed soon after.

The Water Corporation outsourced its Mechanical and Electrical Maintenance work and Operation and Maintenance of its Metropolitan reticulation network using alliance contracts in 1996.

Public authorities across Australia now use alliances to deliver services ranging from trams to road maintenance works.

5 EVALUATING OPTIONS AVAILABLE IN ALLIANCE CONTRACTING

There are two basic options currently being used in Australia:

1. Non cost based partner selection; and
2. Cost based partner selection.

5.1 Selection process - General

The selection process is a key component of the relationship building process. The selection process is designed to build the foundations of the relationship and to create a momentum so the project team can start performing at the outset. The process needs to be undertaken in a way that builds trust and cooperation between the parties and establishes governing principles and commitments that will enable the alliance to strive to achieve outstanding outcomes. It is important to have the people who will be involved in the alliance participate in the selection process, particularly the selection workshops.

The selection process needs to be carefully planned and be designed so the partners with the best cultural alignment with the client and who are most likely to deliver outstanding outcomes against all project objectives are selected. The client's selection team and project team members need to be selected on their cultural fit (with the alliance approach) and given the appropriate alliance fundamentals training before the process is started.

There are two commonly used selection processes, the non cost and cost competitive processes. The selection process marks the beginning of the relationship development process and needs to be treated as such and not just as a transaction.

The inputs into the selection process are:

- The client's strategic objectives;
- The client's business objectives for the project;
- The project scope;
- The project's risk profile;
- The project schedule;
- The budget;
- Quality requirements; and
- Stakeholder issues;

The selection process needs to be robust and the evaluation team (and workshop participants) must include people with competencies in the technical, commercial and behavioural disciplines required to deliver the project.

The generally adopted alliance partner selection process involves:

- A Request for Proposals;
- A desktop evaluation of Proposals by the client to shortlist the field down to a maximum of 4 proponents;
- Half day interviews with the shortlisted proponents to select the final 2 shortlisted proponents;
- A 2 day selection workshop with the final 2 shortlisted proponents to select the preferred proponent; and
- A commercial workshop with the preferred proponent to finalise legal and commercial arrangements.

If the client and preferred proponent are not able to reach legal and commercial closure within a specified time, the client usually has the ability to commence legal and commercial negotiations with the second preferred proponent.

5.2 Non cost based selection process

The non cost based approach is widely referred to as the pure alliance approach. The process outlined in Section 5.1 is the most commonly used pure alliance approach. Cost is not a selection criterion, the alliance partners are selected against criteria that assess their demonstrated culture, competence, commitment, capacity and ability to deliver the project as an alliance and to add value.

When considering whether to use the pure alliance approach, clients need to consider whether:

- they truly wish to reduce the likelihood of claims and disputation occurring;
- they are prepared to share risk with the alliance partners;
- they have an organisational culture that is congruent with the alliance approach;

- they have full corporate support (from the executive) to use the alliance approach;
- they have the expertise and support to develop a robust selection process and legal and commercial framework;
- their selection process will assure them they will select the right partners (partners they can trust);
- they have appropriate staff available to work in the alliance;
- the alliance approach is the right approach for the project;
- they are confident they have the expertise to provide meaningful and informed input into the target cost;
- they are confident they can negotiate an appropriate contingency amount; and
- they are confident they can deal with escalation appropriately;

The pure alliance approach by its nature is more likely to result in a strong psychological contract being created between the parties. This is because all aspects of the alliance development are carried out in a collaborative manner and the goals and objectives of the parties are understood and provided for in the legal and commercial agreement.

The pure alliance approach increases the likelihood of the client selecting the most compatible and capable partners as the selection is not clouded by the attraction of a low price.

The interviews and selection workshops are facilitated by specialist alliance facilitators (engaged by the client) and only the team members who will be working in the alliance should participate. Sales and marketing staff from the proponents' must be excluded unless they will have a specific role in the alliance.

On the New Perth Bunbury Highway alliance selection process, Main Roads Western Australia introduced a second 2 day workshop. Only the 2 shortlisted proponents participated and as far as Main Roads are aware this is the first time a workshop of the kind has been used in the alliance selection process. The purpose of the additional workshop was to assess each proponent in more depth by introducing criteria and activities it had not been coached in, but which Main Roads believed enabled it to assess the likelihood of the proponent delivering outstanding outcomes.

5.3 Cost competitive selection process

The cost competitive selection process follows the process outlined in Section 5.1 above, except the 2 shortlisted proponents are required to prepare an independent design and construction price.

The added features of this process are:

- The client provides one or more of its experts in each proponents' team to help them develop their design;
- The Alliance Leadership Team meets on a regular basis during the design and bid preparation period (to provide client input);
- One or more 2 day intervention workshops are held with each proponent during the design and bid preparation period; and
- The tendered price is not the sole selection criteria, but it is generally heavily weighted.

A cost based selection process is used when there is a perception or belief by the project sponsor that unless there is market tension the target price will undoubtedly be inflated.

There are instances where a cost based selection process is appropriate. They are:

- When the project centres around competing technologies (e.g. a desalination plant);
- When the scope is well defined;
- When the engineering design is highly developed;
- When there is a strong field of tenderers;
- There is a need to dispel the perception that a competitive market tested price is needed to ensure value for money; and
- The project has a low risk profile.

A cost based selection process constrains communication and interaction between the client and proponents and this inhibits the relationship development process between the client and the eventual alliance partners. When using a cost based selection process the client needs to:

- Be prepared to pay the additional costs associated with the cost based selection process;
- Ensure the non price selection criteria are clear and will be provided for in the tendered price;
- Ensure the price is based on the project being delivered as an alliance and not a conventional design and construct project;
- Ensure the selection is based on the overall performance, culture, competence and quality of the proponent's overall submission and not just price;
- Take steps to build a strong psychological contract with the alliance partners once they are selected;
- Ensure they have two teams of experts to represent them in each of the two shortlisted teams during the proposal preparation period;
- Ensure they have a team of experienced support advisors and consultants to help them throughout the process;
- Ensure they do not inadvertently disclose one proponent's intellectual property or innovations to the other proponent during the selection process; and

- Ensure they do not mislead a proponent during the selection process;

The cost competitive element of the alliance selection process is a recent adaptation and it is used by clients who either do not fully trust the pure alliance approach to come up with a competitive target cost without market competition or the project involves competing technologies.

Cost competition introduces additional probity risk into the process and has the potential to retard the relationship development process and the actual relationship that evolves in the alliance.

Development of cost based selection

The pure alliance approach was used in the early alliances and delivered outstanding outcomes, however sceptics in the industry have cast doubt over the process, claiming it is a soft approach and lacks the rigour of the market tension created by a “real” cost based selection processes. This doubt will not go away in the short term as it is supported by the thinking that underpins the traditional and long used (from the late 18th century) cost competitive processes prevalent in the construction industry. Unlike the alliance approach, the cost competitive adversarial approach is supported by a well established legal and commercial infrastructure (the AS 4000 suite of contracts, legislation, mediation and arbitration mechanisms, mediators and arbitrators, claims consultants etc) that can not be abandoned.

6 PEOPLE MANAGEMENT IN ALLIANCES

Alliances bring people from different organisational cultures together. They comprise people from client organisations (including government departments), design offices and construction companies. This diversity of cultures and professional experiences presents challenges, particularly when individuals in the alliance have been on opposite sides of claim and dispute resolution processes on other projects. People management in alliances is more than the application of basic people management techniques. A holistic approach that involves cultural alignment and maintenance is adopted to develop a culture that fosters a collaborative and supportive project environment. The approach involves:

- The incorporation of a set of alliance principles and values into the governance and management framework;
- The Board/Alliance Leadership Team and management team consistently demonstrating behaviour that is congruent with the alliance principles and values;
- Facilitative management;
- Specialised training to bring about changes in paradigms and behaviours;
- One on one mentoring and coaching of staff;

- Designing the office so it enables and promotes inter personal contact and dialogue within the team;
- Creation of an alliance identity;
- Commitment to legacy projects or to leave a positive legacy;
- Empowering the alliance staff to make decisions;
- Providing a physically safe and psychologically safe working environment;
- Providing personal development training that provide staff with skills they can use beyond the project;
- Adopt efficient and effective management systems;
- Open reporting of real progress and performance;
- Recognition and acknowledgement schemes;
- Issue resolution processes that require and promote early declaration and resolution of issues; and
- Equitable treatment of all staff.

Specific issues that arise in alliances that need to be dealt with are:

- Differences in salary and conditions of staff from the organisations in the alliance;
- The removal of people who do not fit in with the alliance way of working; and
- Retaining people when the project is completed (many seek out other alliances);

6.1 Cultural training

Paradigm shift

People in project teams have reasonably rigid views of people from the “other side” and first timers may take fixed views and prejudices into the alliance.

Specialised training is provided to remove any prejudices and to train people to accept other points of view, communicate effectively and to look at different ways of solving of solving problems. The problem solving training includes education in innovation and breakthrough thinking.

Working in alliances

Alliance teams are trained and coached in how to live the so called “soft” side of relationships – trust, respect and active mutual support. The team also has access to specialist coaches who are available to help facilitate the resolution of relationship issues that arise between people in the alliance or any cognitive dissonance people may experience with the alliance or the alliance approach.

7 RISK REWARD MODELS

7.1 Structure

The elements of the risk reward scheme are:

1. The Direct Cost Target (DCT);
2. The profit and overhead amount or rate (as a percentage of actual direct costs);
3. Key Result Areas (KRA's);
4. The formula; and
5. A performance pool.

Direct Cost Target

The DCT is the alliance's estimate of the direct cost to perform its obligations under the alliance agreement. It must be free of any element of the non owner participant's profit and overhead. Issues that arise in pure alliances, (where the DCT is estimated after the non owner participants have been selected) are:

- The absence of market competition makes it difficult for the alliance to dispel claims the DCT is inflated;
- Difficulties related to determining an appropriate contingency amount;
- Dealing with escalation; and
- Overcoming tensions created from existing beliefs and paradigms - there is a perception clients tend to push the DCT down and the contractors tend to push it up.

Mechanisms are put in place to address these matters and these include:

- The DCT estimating process is fully open book;
- The estimating team includes client cost consultants and or estimators;
- Actual costs and production rates from similar projects undertaken by the non owner participants are used or referenced;
- Independent third party verification of costs and estimating processes are carried out;
- Most direct costs are obtained through normal open market tender processes; and
- The client has the right to terminate the relationship if they are not satisfied with the DCT.

Profit and overhead rate

The profit and overhead rate is generally agreed in the Commercial Workshop carried out with the preferred proponent.

The profit and overhead rate is agreed before the client agrees to move forward to commence the DCT preparation with the preferred proponent. If the level of profit and overhead can not be agreed, the client has the right to commence negotiations with the second preferred proponent.

The client should ensure it has the right to review previous similar projects undertaken by the preferred proponent to enable it to negotiate an appropriate profit and overhead rate. The general rule is the non owner participants should be paid the level of profit and overhead they regularly achieve on other similar projects. Up to 5 projects should be reviewed and the going in (tendered profit and overhead) and the actual profit and overhead return from the projects are used as the basis for negotiating the profit and overhead to apply to the project. This review is only carried out on the preferred participant.

KRA's

The KRA's are the areas of particular interest to the client. Each KRA has a number of Key Performance Indicators (KPI's) that are measured and reported against throughout the life of the alliance. The elements of the project that are assigned KPI's are the elements the client needs business as usual outcomes as a minimum and is prepared to pay extra profit and overhead for better than business as usual outcomes.

KRA's and KPI's must be carefully selected and must be measurable.

Formula

The risk reward formula determines how savings or losses are distributed between the participants. Risk reward formulae can be very complex but their main components are:

- The DCT;
- A sharing ratio, which is used to distribute direct cost overruns or underruns between the client and non owner participants (50:50, 60:40 etc);
- Modifiers that modify the sharing ratio based on the outcomes against the KRA's; and
- A cap on the maximum loss that can be incurred by the non owner participants (the cap is normally the maximum profit and overhead amount payable to the non owner participants).

Throughout the life of the alliance the non owner participants are paid all direct costs. If the sum of actual direct costs is less (or more) than the DCT, the non owner participants are paid a share of the savings (or pay a share of the losses in the case of an overrun). The share is determined by the sharing ratio.

Performance Pool

A performance pool is either separately funded by the client or generated from savings against the DCT.

The main purpose of the performance pool is to:

- Maintain an incentive for the alliance to perform well if it is unlikely the alliance will generate savings; and

- Act as an additional incentive for the alliance to achieve better than business as usual outcomes in areas of high importance to the client.

7.2 Getting the most out of your risk reward model

The intended purpose of the risk reward model is to link remuneration to the actual outcomes or performance of the alliance. A risk reward model should encourage the alliance to deliver outcomes that will ensure the project achieves the client's project objectives. For this to happen, the client must fully understand its business objectives and these must be expressed in the project objectives.

The risk reward scheme is then structured so it encourages outstanding performance in the areas that will satisfy the project objectives (the KRA's).

For the risk reward scheme to add value to the project and achieve its intended purpose it should have the following attributes:

- It must be relevant to the project objectives;
- It must be measurable;
- It must be easy to measure;
- It must be simple to implement;
- It must be economical to run i.e. the effort and cost to run it must be compatible with the effect it has on the commercial and non cost outcomes;
- It must be auditable;
- It should not be open to manipulation;
- It must be fair to all Participants;
- It must ensure there are no situations where one parties gain is a result of another parties loss;
- It must focus management effort on achieving or exceeding the project objectives; and
- It must promote and encourage appropriate alliance behaviours.

The operation of the risk/ reward scheme should be understood by all participants and staff at all levels of the project team.

For a risk/reward scheme to work it is essential that it is developed specifically for the project and is not a cut and paste of a risk reward regime from another project.

8 CONCLUSION

The alliance contracting strategy developed out of a need and desire to improve the productivity of the construction industry. The high levels of claims and disputation prevalent in the industry was seen as a major contributor to the low levels of productivity. Sections of the industry started to adopt contracting strategies that enabled and encouraged the parties

to work together. The first of these strategies was project partnering which was followed by project alliancing.

The current boom conditions have found the industry wanting. It does not have the resources to undertake all the projects that are on offer and it is still using project delivery strategies that do not make optimum use of the available resources.

As a user of design and construction services, Main Roads has an interest in project delivery strategies that reliably deliver good outcomes against the project objectives. We do not want to use strategies that consume the intellectual, physical and commercial resources fighting claims and disputes or enforcing onerous terms and conditions of contract. We are prepared to adopt strategies that deal with risk intelligently, make better use of scarce resources, eliminate the conflict and make the industry an attractive career option for future generations of blue and white collar professionals.

Relationship contracting options and in particular the project alliance approach is delivering improvements and has delivered good to outstanding outcomes on the projects it has been used on, including projects that have faced significant difficulties.

The challenge is for the construction industry and its service providers to work together to transform the industry from a hard, adversarial and largely inefficient industry to one that is known for its efficiency and innovative solutions to the challenges it faces.

References

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