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Project Alliancing in Australia
background, principles & practice

by Jim Ross



PROJECT CONTROL INTERNATIONAL PTY LTD

Phone +61 7 3821 3799
Fax +61 7 3821 3780
e-mail pci3@ozemail.com.au

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Jim Ross

Project Control International Pty Ltd
Cleveland, Brisbane, Queensland, Australia

1 INTRODUCTION

All major capital works projects involve inherent risks (eg. political or economic change, climate, technology, ground conditions, engineering uncertainties, errors, industrial disputes, land issues, environmental issues and many more). In order to achieve optimal outcomes the project owner must select the most appropriate strategy for managing these risks.

The traditional “risk transfer” approach is still the best method for many projects – particularly where the scope is clear and the circumstances and risks are reasonably predictable. 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 traditional risk-transfer contracting models have increasingly been shown to be inadequate to deal with these circumstances.

In recent years a growing number of owners in Australia have turned to project alliancing to deliver large complex projects in the resources, infrastructure and building sectors and the results so far have been impressive. The aim of this paper is to:

- explain how project alliancing operates in practice;
- examine important underlying principles that are central to a proper understanding of the concept;
- provide guidance for owners on when to use and when not to use project alliancing;
- give an overview of some of the key benefits; and
- identify the major risks and strategies to manage those risks.

2 HISTORICAL OVERVIEW

2.1 The traditional approach

The traditional approach is for owners to transfer as much of the risk as possible to others – eg. insurance companies, designers and constructors. While this “risk transfer” approach is often appropriate, it can give rise to an adversarial culture that can itself threaten the success of the project.

In a research report¹ published in 1988 a group representing diverse interests within the construction industry in Australia made the following observations based on extensive research around the developed world:

“claims and disputes have now become an endemic part of the construction industry... the problem of claims and disputes in the construction industry is a world-wide phenomenon.... Nowhere were there indications given that the incidence of claims and disputes were decreasing....”

That report gave rise to the *No Dispute*² report by a NPWC/NBCC joint working party in May 1990. One of the key recommendations of the *No Dispute* report was stated as the *Abrahamson Principle*³, which in effect says that risks under a construction contract should be borne by the party that is best able to manage those risks. Many of the more extreme examples of adversarial conduct in the construction industry occur because the owner, when setting up the contracting arrangements, fails to adhere to this simple principle.

Risks under a construction contract should be borne by the party that is best able to manage those risks

2.2 Improvement strategies

There have been many noteworthy initiatives since 1990 aimed at improving the efficiency of the building and construction industry, including (to name just a few):

- a) the Construction Industry Development Agency (CIDA) and its successor the Australian Construction Industry Council (ACIC);
- b) the introduction of **guidelines and codes of practice** by some state governments to improve the standard of administration on government contracts;
- c) state **legislation** designed to provide more protection to those at the lower end of the contracting chain;
- d) the widespread use of **cooperative contracting models** such as “partnering” and “project alliancing”.

2.3 Partnering

The concept of project-specific partnering was pioneered by Cowan⁴ in the US in the 1980’s in his work with the United States Army Corps of Engineers and the Arizona Department of Transportation. Cowan reported significant savings in project costs and time using the partnering approach, which in its simplest form, is a commitment between parties under a traditional “risk transfer” type of contract to work together in a spirit of mutual trust and respect towards the achievement of shared project objectives. For detailed information and diverging views on project-specific partnering in Australia refer to CIDA⁵, Quick⁶, Tyrill⁷, Uher⁸, and Patching⁹.

2.4 Project Alliancing

Probably the most innovative of the recent strategies aimed at improving the delivery of construction projects is project alliancing – an approach that challenges fundamental attitudes and practices that are entrenched in the industry.

The practice of project alliancing in Australia is based on the models used on several successful oil and gas projects in the UK and closely follows the principles espoused in the CRINE¹⁰ report on the UK oil and gas industry. The CRINE report attacked the entrenched “master-slave” culture that traditionally existed between owners suppliers and contractors and recommended a radical shift to peer relationships based on mutual trust and respect.

Thomson¹¹ has compiled an informative and comprehensive history on the origins and application of project alliancing in Australia.

2.5 Relationship Contracting

In 1998 the Australian Constructors Association (ACA), a body representing 18 of the largest constructors in Australia, interviewed the chief executives of 34 of the industry’s major private and public sector clients to hear their views on how project outcomes could be improved. Based on that research and with widespread support from those client representatives the ACA concluded¹² that the way forward for the industry is *relationship contracting* – which it defined as “*a process to establish and manage the relationships between the parties that aims to remove barriers, encourage maximum contribution and allow all parties to achieve success*”.

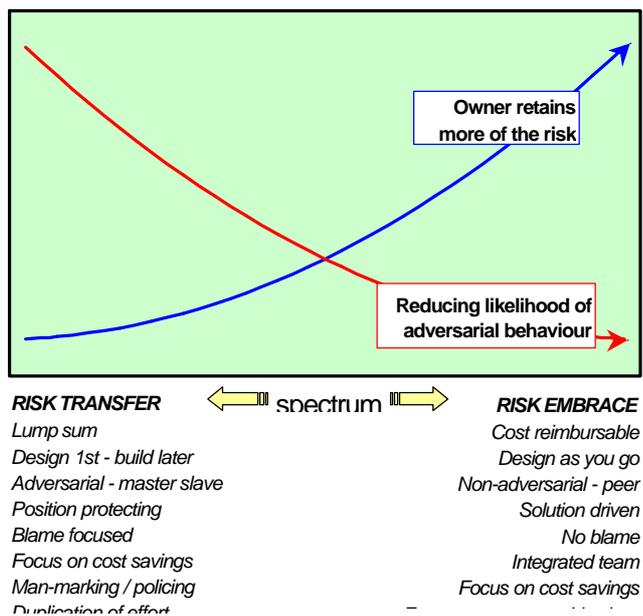
This paper does not aim to cover the whole gamut of relationship contracting strategies. Rather the focus is on one particular strategy – project alliancing – that can be viewed as being at the “top end” of the relationship contracting spectrum.

3 CHOOSING THE RIGHT CONTRACTING STRATEGY

3.1 The risk management spectrum

At the onset of a project the risks that are inherent to that project are “owned” by the owner. The success of the project depends upon how effectively these risks are managed by the owner. Typically owners (and/or its advisers) lock in on the project risk management strategies in the early stages of the project when the decision is made on the overall project delivery method.

In broad terms the owner can choose from a “risk transfer” approach at one end of the spectrum to a “risk embrace” approach at the other end, with a variety of risk sharing hybrids in between. The dominant project culture will be largely determined by which contracting model is chosen.

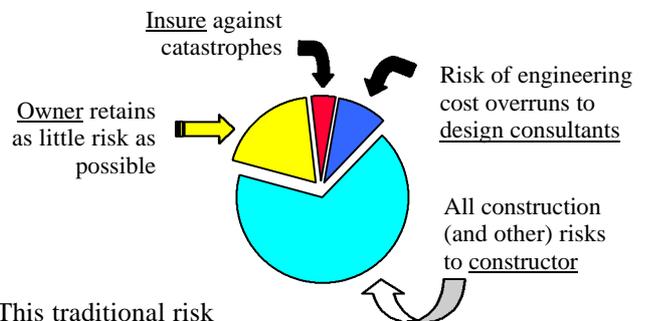


It cannot be said that any particular model along this spectrum is the “right” one. The owner must choose a contracting model that is appropriate to the particular circumstances of the project. It is important for the owner to choose wisely in the first instance because it is usually impractical, or at least very difficult, to convert to a collaborative approach having started off under a traditional risk transfer approach, even where all parties have come to realise that the risk transfer approach was not appropriate.

So the owner generally only gets one shot at selecting the right contracting strategy. The remainder of this section is intended to help owners make the right choice in the first place.

3.2 Traditional risk transfer approach

The traditional risk management strategy adopted by owners is to transfer as much of the risk as possible to others.



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 traditional 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 The premiums for risk included by the 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 – see further comments below.]

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- ② The 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 the risk taker to claim recovery from the owner if the risks do unfold.

[Experience has shown that “tight” contract conditions are no guarantee that the owner will be immune from claims. This test is not that easy to satisfy beyond doubt.]

- ④ The mis-alignment of commercial interests created by the inherently “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 4th test that cannot be satisfied on complex fast-track projects where a substantial portion of the intellectual talent on the project is devoted to protecting positions at the very time when that effort should be focused on finding solutions which are best-for-project. The result is evident in bitterly adversarial conduct, late completion, claims and cost blowouts, and in more extreme cases arbitration or litigation – in other words poor project outcomes for all parties.

Risk transfer “hard dollar” contracting arrangements create a clear misalignment between the interests of the designer/constructor and those of the owner. In a hard dollar environment most of the situations that arise are likely to be **win:lose** - in order for the contractor to get what it wants the owner has to lose (and vice versa).

Many major resource projects do experience significant cost and time overruns when using a traditional risk-transfer contracting strategy. Avots¹³ summarised the results of various research studies on completed studies around the world and reported four factors as leading to cost overruns on large projects, namely:-

1. *The complexity and volatility of projects and their environments,*
2. *The extent to which technology is state-of-the-art and involves research and development,*
3. *The presence of external factors, such as government regulations and the physical environment, constraining management,*
4. *The extent to which size (physical, manpower, financial) exceeds a previously established threshold for the industry, technology, enterprise..*

In addition to these factors, the author would add two further factors based on his involvement in Australian projects over the past 20 years:

5. The extent to which the project must interface and coexist with an existing operating facility;
6. The extent to which the project is aiming to set new benchmarks for the early completion of the project compared to previous world’s best practice.

On fast-track high risk projects owners sometimes try to transfer risks that the other parties cannot control or properly manage. This generally occurs either because the owner is trying to take advantage of a very competitive construction market or the owner is not properly aware of the nature of the risks involved.

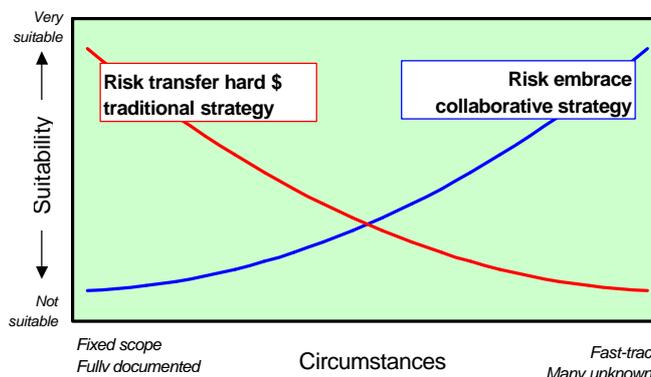
Either way the outcome is the same – the transfer of risk is merely an illusion and the attempt to transfer the risk inappropriately itself constitutes a significant potential risk for the owner.

On fast-track high-risk projects, the transfer of risk is often just an illusion and the attempt to transfer risk inappropriately itself constitutes a significant risk for the owner

3.3 The risk embrace approach

The rationale for an owner in adopting 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.

A properly informed owner will be able to recognise whether the circumstances suit a risk-transfer or a risk-embrace approach – as a general guide:

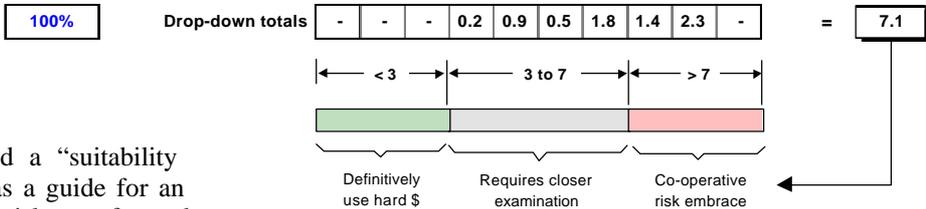


Where the scope of work and the risks are well defined, the traditional risk transfer approach will generally deliver the best value to the owner. Where there are many unknowns and the risks are ill-defined, a risk embrace approach will usually be more appropriate.

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

Either way the owner’s choice should be founded on sound economic principles based on a proper understanding of the nature of risk in a construction environment. All too often the owner’s choice seems to be based on false assumptions as to how effectively risks can be transferred to others despite compelling evidence that risk transfer under those circumstances is illusory.

	Weight	Low rating										
Does it matter if project is delivered late?	8%	Does not matter if late								9		Must be delivered on time
Is early delivery of value to owner?	8%	Of no tangible value								8		Of great value
Is there enough time to do substantial design before starting construction?	8%	Design can be 100% before construction starts					6					Will have to start construction during early stages of design
Nature of work - green field versus brown field	10%	Total green field site				5						Many critical / intimate interfaces
Technology - proven or radical?	10%	Well proven stable							7			New and/or evolving
Sensitivity to disruption from aboriginal, heritage / environmental / community	10%	Very low risk								9		Very high risk
Industrial relations environment	5%	Very low risk				4						Very high risk
Owner's understanding of the principles & practices of relationship contracting	10%	No real understanding								8		Thorough understanding
Owner's capacity / willingness to be part of integrated project team	8%	Little experience								9		Very experienced
Risk culture of the owner / preparedness & capacity to absorb risk	10%	Totally risk averse							7			Strategic management of risk - sophisticated view of risk
Risk culture of financiers / requirement for guaranteed maximum cost (GMC)	8%	Totally risk averse				5						Strategic management of risk - sophisticated view of risk
Availability of suitable contractors with proven relationship record	5%	None available							7			Good selection to choose from



3.4 The suitability matrix

In 1997 the author developed a “suitability matrix” which was designed as a guide for an owner in choosing between a risk transfer and a risk embrace approach on specific projects. By testing the project circumstances against a number of criteria (arbitrarily weighted) a “suitability score” between 1 and 10 is developed. A typical example of a suitability matrix is reproduced above.

A score of less than 3 suggests that a “hard-\$” risk transfer approach should be used. A score above 7 indicates that some type of co-operative model should be used. In the above example, the score of 7.1 suggests that the owner should adopt some form of cooperative risk-embrace model. 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.

This arbitrary but nonetheless useful tool is being used by a growing number of people in the industry and is one of the tools mentioned in the ACA’s *Relationship Contracting* publication¹². However, the suitability matrix is only intended to serve as a rough guide and not as a substitute for a proper analysis of the circumstances. Owners should adopt the most appropriate strategy having carefully and realistically assessed all the relevant factors.

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3.5 The problem with partnering

There was a surge of interest in partnering (refer section 2.3 above) when it was first introduced into the Australian construction industry in the early 1990’s. It has been used mostly on resource and infrastructure projects with some notable applications in the building sector. However, the general industry feedback on the experiences of partnering to date is mixed – in summary:

- (a) Many examples where partnering is acknowledged to have improved the standard of project administration and delivery.
- (b) Numerous examples where both parties have expressed great cynicism about the genuineness of the process based on their experiences – likened by some to “rape with the lights on”.
- (c) A few notable cases where partnering seemed to do nothing to alleviate adversarial conduct but served to greatly increase the associated level of bitterness.

Tyrill⁷ has provided an insightful and accurate analysis of some of the factors underlying the mixed performance of partnering. In the author’s view the overall mixed performance of partnering is not surprising because:

Upside 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.

Downside Partnering tries to impose a culture of “win-win” over the top of a commercial and contractual framework which 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.

3.6 The cost plus solution

An owner can overcome these downsides and secure non-adversarial conduct by adopting a cost plus model whereby the contractor (designers and/or constructors) are reimbursed all their 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 that 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 – an equally unacceptable outcome.

3.7 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. It is beyond the scope of this paper to examine the CRPI contract model in any detail. However it is worth noting some of the key points so as to highlight the distinction between cost plus, CRPI and the “pure” form of alliancing that is the main subject of this paper and is dealt with exclusively from section 4 onwards.

Under a CRPI model the owner and the contractor (designer or constructor) agree on a target cost and a target schedule to complete the work. The contractor is then compensated under a 3-limb compensation model as follows:

Limb	Basis of compensation
1. Costs	All project costs, including project-specific overheads reimbursed at cost based on 100% open-book accounting
2. Fee	A fixed lump sum to cover corporate overheads and profit. Initially expressed as a % but “converted” to a lump sum once the Target Cost is agreed
3. Incentive	Opportunity to earn rewards (but with no risk of penalties) where actual outcomes are better than the targets in cost, time and other performance areas.

Typically the primary commercial driver is the sharing of cost underruns 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 that 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 that the targets can no longer be bettered then the only feature that distinguishes CRPI from a pure cost plus model is the fact that the contractor receives no mark-up on cost overruns (since the Fee is a fixed lump sum).

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

The CRPI model appears to have contributed to very successful outcomes on several major projects in Queensland – in particular:

Project	Application / achievements
CRA (Rio Tinto) Boyne Smelter Expansion Project Gladstone '95-'97	Over 30 construction contracts delivered using CRPI model. <ul style="list-style-type: none"> • Completed in 26 months, 6 months ahead of schedule • Project within budget Source http://www.comalco.com.au/06_announce/01_97_11_10.htm
QCL Clinker Expansion Gladstone 1997	Mechanical, electrical and refractory contracts on CRPI basis <ul style="list-style-type: none"> • Plant start up on schedule despite equipment supply problems • CRPI contracts on/under budget Source http://www.qcl.com.au/pdf_files/Gladstone.pdf
Pasminco Century Zinc mine 1998 – 1999	The main civil, mechanical/structural, electrical contracts at Lawn Hill and the Karumba Port development contract were all based on CRPI. <ul style="list-style-type: none"> • Project ~ 3 months ahead of world's best practice schedule • Project below budget Source http://egoli.atwww.com.au/newsandviews/archives/2439.html

On the Gladstone Expansion Project, QCL states¹⁴ that the CRPI model (called “Performance Incentive Partnering” on that project) “...led to close working relationships and an extremely high level of commitment from all stakeholders, which spread throughout the project and assisted greatly in completing it on time.”

However the CRPI model has also been used on other major resource development projects around Australia since 1996 with somewhat mixed results.

CRPI contracts have generally been conducted with separate owner and contractor project teams with traditional man-marking characteristics. Notable exceptions include the Karumba Port contract (for Pasminco's Century Zinc project) and the CRPI contracts on WMC's Olympic Dam Expansion project in Roxby Downs South Australia.

4 INTRODUCING PROJECT ALLIANCING

4.1 Defining the term

There are various types of cooperative contracting models that people characterise as project alliances – eg. some people consider cost plus or CRPI contracts to be forms of project alliance. This paper focuses on a particular type of project alliance, based on the UK oil and gas models used in the early 90’s, that has ALL of the following features:

- ❑ Involves **2 or more parties** (ie. owner, designers, constructors and sometimes key suppliers) bound by a **single agreement**. The parties are collectively referred to as the “Alliance Participants”
- ❑ The performance **obligations** are generally stated to be **collective** (ie. *the Alliance Participants shall*) as opposed to individual (eg. *the Contractor shall..*).
- ❑ Reimbursement to the non-owner participants (called “Other Alliance Participants” or “OAPs”) can be characterised as a **3-limb compensation** model:
 - ❶ 100% of what they expend directly on the work including project-specific overheads
 - ❷ A fixed lump sum Fee to cover corporate overheads and profit
 - ❸ An **equitable sharing of gain / pain** depending on how actual outcomes compare with pre-agreed targets in cost and non-cost performance areas – consistent with the guiding principle that “*all parties win or all parties lose*”.

- ❑ There is an express commitment to resolve issues within the alliance without recourse to litigation except in the case of “wilful default”.
- ❑ All transactions by all parties are **100% open book** and subject to verification by audit.
- ❑ The project is governed by a **Project Alliance Board** with representatives from all parties who carry full authority to bind the party, and all decisions by the Alliance Board must be **unanimous**.
- ❑ The project is managed by an **integrated project management team** where members are assigned to the team on a “**best-for-project**” basis, without regard to which company they are employed by.
- ❑ The Alliance Participants develop and commit to abide by an agreed set of “**Alliance Principles**”

4.2 Australian Project Alliances

Since the first projects in the oil and gas industry in the UK (refer Thomson¹¹) project alliancing has spread to various industry sectors, including mining, on-shore process facilities, infrastructure and building. Since Ampolex took the lead in 1994 with the Wandoo Alliance¹⁵, a number of other major Australian projects have adopted the alliance model. The alliance model is currently being used on projects with values as low as \$4m. The table below includes just some of the notable past and current project alliances in Australia. Some of these will be referred to later in this paper.

Year(s)	Owner / Project Alliance	Other Alliance Participants	Comments / source
'94 - '96	Ampolex (Mobil) Wandoo B oil platform \$375m alliance scope	Leighton Contractors Dawson Brown & Root JV Keppel Corporation Ove Arup Pty Limited	Winner of 1997 engineering excellence award Winner of 1998 Australian Construction Award \$13m under budget, 26.5 mths vs. industry norm of 34 mths Refer "Wandoo B Offshore Oil Platform" published by alliance ¹⁵ http://www.mobil.com.au/company/tcexwan.htm
'94 - '97	WMC Resources Ltd East Spar Project - WA	Kvaerner Oil & Gas Clough Engineering	Winner of the IEAust's highest national engineering excellence award - the Sir William Hudson Award http://www.engaust.com.au/ea/1297coverstory.html
'96 - '99	BHP Direct Reduce Iron	Various	3 separate fabrication / construction alliances. Refer Thomson ¹¹
'97 -	Sydney Water Northside Storage Tunnel Project ~\$350m alliance scope	Transfield Tunneling Connell Wagner Montgomery Watson Kilpatrick Green (sub-alliance)	Work currently on target to meet the completion deadline for the Sydney 2000 Olympics. Refer paper by Henderson & Cuttler ¹⁶ and report by Wallis ¹⁷ . http://www.engaust.com.au/ea/0998tunnelling6.html
'98 -	Commonwealth Government National Museum Acton Point Canberra	Ashton Raggatt McDougall, Robert Peck von Hartel Trethowan, Civil & Civic, Tyco International, Honeywell Ltd, Anway and Company	Scheduled to be open on 12 March 2001. http://www.nma.gov.au/aboutus/bustats.htm
'99 -	WA Water Corporation Woodman Point Wastewater Treatment Plant Upgrade ~\$120m	Clough Engineering Kinhill Group	Scheduled for completion by end of March 2002 http://www.clough.com.au/latestnews.htm http://www.awwa.asn.au/Branches/WAnews/WW/page11.html
'98 -	BP / BOC / Lend Lease QLD Clean Fuels Project Bulwer Island ~\$350m	Stork ICM Kvaerner	Project currently in early stages of construction
'99 -	ETSA - ElectraNet SA Multi-project alliance for new HV transmission works	Kilpatrick Green Burns and Roe Worley	Penola West (~\$4m) - work on schedule to meet target completion in mid October 1999 despite numerous externally imposed delays. Work started on Pelican Point (~\$22m).
'99 -	QLD Department of Main Roads Norman River Bridge ~\$5m	Barclay Mowlem	Scheduled for completion late 1999

4.3 Limb 1 - projects costs

The guiding principles for reimbursement under Limb 1 are straightforward:

- (a) The OAP is reimbursed its actual costs incurred on the project, including costs associated with rework. *[The sharing of pain:gain under Limb 3 ensures that the OAPs share in the pain associated with wasted effort and rework.]*
- (b) Reimbursement under Limb 1 must not include any hidden contributions to corporate overhead or profit.

It is usually left up to the alliance to establish procedures that ensure that reimbursement complies with the above guiding principles. In practice, typically, in respect of a constructor:

- Reimbursement of costs is generally based on the constructor’s cost accounts backed up by source records (ie. invoices, payroll etc). In some cases, for convenience, the parties may agree up front on unit cost rates for certain items (eg. internal plant hire rates, salaried staff etc.) to save the inconvenience and expense of on-going audit verification.
- The separation between project-specific overheads and corporate overheads is generally fairly clear. Corporate support such as payroll, corporate monitoring and senior level input (including Alliance Board members) is considered to be part of corporate overheads and is not reimbursed under Limb 1. The basis for payment in respect of more specific corporate support such as safety, environmental and quality managers needs to be agreed up front.

And in the case of the designer:

- The costs of providing design staff for the project, including their expenses and disbursements, are reimbursed based on actual payroll and other records. In some cases the parties may agree on cost rates to avoid the need for on-going payroll verification.
- The division between project-specific and corporate overheads is less clear than for constructors, especially where the design staff continue to use head office amenities for carrying out project work. The normal arrangement is to agree a % mark-up or flat rate per hour, to be reimbursed as part of Limb 1, that is deemed to compensate for project usage of corporate facilities.
- Senior corporate support including attendance at Alliance Board meetings by the designer’s senior personnel is usually deemed to be part of corporate overheads and is not reimbursed under Limb 1. However this needs to be made clear up front so that the designer can make due allowance in its Fee for this kind of attendance - which goes well beyond the level of corporate support normally provided by design consultants.

It is a fundamental principle that all project transactions and costings are **100% open book and subject to audit**.

4.4 The Target Cost

In order to properly explain the operation of the 2nd and 3rd limbs of compensation it is necessary to explain the concept of the “target estimate”.

In a project alliance the parties collectively develop an estimate of what they think it will cost (or would normally cost) to deliver the scope of work that is being undertaken by the alliance. This estimate is referred to as the “Target Cost Estimate” or the “Business-as-Usual Estimate”. The term “Target Cost Estimate” will be adopted for the remainder of this paper. A typical Target Cost Estimate might be as summarised in the following spreadsheet (referred to as the “Sample Estimate” below):

	A	B	C	D	
1		Element	Estimate \$	Sub-total	
2	Constructor (OAP1)	Project salaried staff	4,000,000		
3		Wages labour	25,000,000		
4		Permanent materials	20,000,000		
5		Construction equipment	12,000,000		
6		Subcontract	19,000,000		
7		Site amenities & facilities	2,000,000		
8		Other project overheads	1,000,000		
9		Contingencies	2,000,000		85,000,000
10		Designer (OAP2)	Staff costs		4,300,000
11	Expenses / disburse		500,000		
12	Contingencies		200,000		
13	Owner direct	Salaried staff in team	1,000,000	10,000,000	
14		Owner supplier materials	8,000,000		
15		Other costs	700,000		
16		Contingencies	300,000		
17					
18	Initial Target Cost (excludes PC Items)			100,000,000	
19					
20	Excluded from target (PC Items)			1,000,000	

The **Initial Target Cost** (cell D18 in the Sample Estimate) is adjusted progressively, up or down, for Variations (see section 5.12 below) so you eventually end up with a **Final Target Cost**. The actual costs are compared against the Final Target Cost to determine the cost overrun/underrun.

The parties may agree to quarantine certain cost elements as “provisional cost items” (PC Items) where the risks are outside the control of the alliance or where the parties cannot agree on what contingency to allow within the Target Cost Estimate. However, this option should be used sparingly and to discourage “taking the easy way out” during the development of the Target Cost Estimate, it is recommended that the OAPs recover a reduced mark-up on any work they eventually carry out on PC items.

4.5 Limb 2 - Fee

It is normal practice for the Other Alliance Participants to commit to an agreed Fee percentage long before the Target Cost Estimate has been developed. [The process by which the Target Cost Estimate is developed is discussed further in section 6.3 below.] As an example let’s say that the constructor’s Fee percentage is 12% and the designer’s Fee percentage is 30%. Once the Target Cost Estimate is agreed, these percentages are applied to the OAPs’ respective portions within the Target Cost Estimate to determine their respective fixed lump sum Fee (“Fee\$”).

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Using the figures from the Sample Estimate as an example, the Fee\$ would be:

- 12% x \$85,000,000 = \$10,200,000 constructor
- 30% x \$5,000,000 = \$1,500,000 designer

Although not the recommended practice, in some cases the designer / constructor come to the alliance on the basis of a consolidated Fee%, having pre-agreed and declared how the Fee\$ will be apportioned between them (eg. 85:15).

The Fee\$ is generally paid progressively in proportion to the % of actual work completed. The Fee\$ is not related in any way to the actual costs incurred and is only adjusted, up or down, for Variations (see section 5.12). In this way, even without the Limb 3 painshare:gainshare, the OAPs have some commercial incentive to keep costs down so as to maximum their margin recovery (relative to actual costs). The effect is illustrated as follows, referring to the Sample Estimate (assuming there were no Variations):

	A	B	C	D	E	F	G	H
1		Target Cost			10% over		10% under	
2		\$m	Fee\$	%	\$m	%	\$m	%
3	Constr.	85.00	10.20	12.0%	93.50	10.9%	76.50	13.3%
4	Design	5.00	1.50	30.0%	5.50	27.3%	4.50	33.3%
5								
6		90.00	11.70	13.0%	99.00	11.8%	81.00	14.4%

An 10% overrun in cost means that the OAPs' (consolidated) overall margin slips to 11.8% (expressed as a % of actual costs – cell F6) compared to the 13% they targeted (cell D6), whereas if they do the work for 10% less than what is allowed in the Target Cost Estimate, their combined margin “grows” to 14.4% (cell H6)

5 PAINSHARE:GAINSHARE ARRANGEMENTS

5.1 Guiding principles

The Limb 1 and 2 compensation structure is fairly standard across different project alliances. It is the painshare:gainshare arrangements under Limb 3 that establish the commercial “personality” of the particular alliance. While the possible arrangements are limited only by the imagination, they should be designed to comply with the following fundamental principles:

- 1) When tested against all possible outcomes the result for all Alliance Participants should be either **win:win** or **lose:lose**. Under no circumstances should the project outcomes lead to a win:lose outcome amongst the Alliance Participants – ie. everyone wins or everyone loses together.

Under a properly balanced risk:reward regime the result for ALL alliance participants is either WIN:WIN or LOSE:LOSE when tested against all potential outcomes

	Owner	Other AP's
Good outcome	Win ✓	Win ✓
Bad outcome	Lose ✗	Lose ✗

- 2) The OAPs' risk:reward should be linked to project outcomes which add to (or detract from) the **value** to the owner, and which can be **influenced** by the performance of the Alliance Participants.
- 3) Reward targets should be set so that it will take exceptional performance to secure exceptional rewards, but the targets must be **achievable**.
- 4) The mechanisms should be **interlinked** so as to discourage any tendency to sacrifice performance in one area in order to secure rewards in other areas.
- 5) The risk:reward mechanisms should be as **simple** as possible, so that:
 - they can be easily communicated to and understood by the members of the integrated project management team; and
 - the cost of administering each mechanism is kept in perspective compared to the amounts of money at stake.

5.2 Key Performance Indicators (KPIs)

The sharing of pain:gain is primarily based on measurable outcomes in key performance areas. The key performance indicators (KPIs) can be grouped into two categories:

- 1) **Hard KPIs** - based on purely objective measurement.
- 2) **Soft KPIs** – those that rely on purely subjective assessments of performance, or a mixture of objective and subjective measurement.

The painshare:gainshare arrangements may be based on any or all of the following KPIs (and many more besides):

Hard KPIs	Cost & Revenue	<ul style="list-style-type: none"> • Actual cost versus Final Target Cost • Plant operating efficiency & availability versus pre-agreed targets
	Time	<ul style="list-style-type: none"> • Critical milestones and plant handover • Commissioning / operating ramp-up
	Interface	Interfacing with and impact of work on owner's existing and on-going operations
	Quality	Compliance / performance specifications
Soft KPIs	Safety, Environment, Community / Heritage	Based on some or all of the following measurement techniques: <ul style="list-style-type: none"> • Compliance audits of systems/processes • Outcome statistics • Formal survey of stakeholders • Subjective rating from within alliance

On large very complex projects with a diverse range of stakeholders, such as the Northside Storage Tunnel Project, it may be desirable to develop sophisticated measurement systems for all of these areas - refer Henderson and Cuttler¹⁶. On smaller less complex projects the same drivers can be achieved with much simpler mechanisms – some examples are give below.

5.3 Capping of the OAPs' potential downside risk

The total amount that the OAPs put at risk under Limb 3 is usually capped at the Fee\$ - ie. the worst outcome for each of the Other Alliance Participants is that it recovers its costs under Limb 1 but its share of the “pain” under Limb 3 completely negates the Fee it receives under Limb 2. However it should be noted that in some cases the downside “cap” is set somewhat higher so that even in the worst case the OAP will recover a small margin return.

An OAP's downside risk is usually capped so that its worst potential outcome is that it recovers its project costs but no more – ie. no Fee at all.

A valid question often asked is:

“Why should there be any limit on the OAPs' downside risk - if it is to be a true full-bodied alliance then why shouldn't the OAPs assume a share of the risk hand-in-hand with the owner all the way?”.

In answer to this question, the author considers it is appropriate to have a risk cap for the following reasons:

- 1) Ultimately the project is owned by the owner and it is the owner that will eventually receive the benefits of the success of the project through its operational life. To expect a contractor, who has no equity in that downstream success, to assume an unlimited risk in exchange for an inherently limited potential reward is neither reasonable nor logical.
- 2) In a properly balanced and well managed alliance the risk of exhausting the OAPs' risk limit is very slight (see further comments in section 5.6 below.)
- 3) In offering / negotiating its Fee% a prudent contractor will have regard to the potential risks. Where the downside risk is capped the contractor can offer a Fee% that is consistent with the defined limits of its risk. By not having a risk cap there is a risk that the owner will end up paying a higher Fee for little or no practical return.

5.4 Capping the OAPs' potential upside reward

As a general principle no express cap should be placed on the OAPs' upside reward potential because:

- The amount by which you can underrun any estimate is inherently capped in any case – ie. you obviously cannot underrun by 100%.
- There should always be some tangible commercial incentive for the OAPs' to strive for even better win:win outcomes.

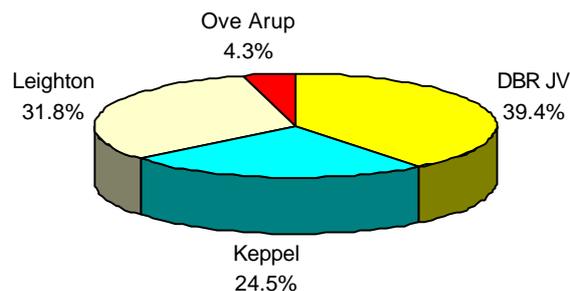
However some owners, particularly those that are new to the alliance process, may feel they are getting added protection (in addition to the process discussed in section 6.3 below) against the risk of an “inflated” Target Cost Estimate.

5.5 Sharing of risk:reward amongst the OAPs

One method would be for the OAPs to share pain and gain in direct proportion to their “alliance participation rates” as determined by their respective cost components in the Target Cost Estimate. On this basis, referring to the Sample Estimate, risk:reward payments to/from the OAPs under Limb 3 would be apportioned as follows:

- 94.44% to the Constructor (based on \$85m/\$90m)
- 5.56% to the Designer (based on \$5m/\$90m)

Using this method risk:reward was taken up amongst the four OAPs on the Wandoo Alliance¹⁵ as follows:



Alternatively, in recognition of the disproportionately high impact that the designer can have on the cost outcome the pain:gain could be distributed in proportion to the respective Fee\$'s or the Other Alliance Participants might agree up front to share pain:gain along pre-determined lines (eg. 85%:15%) that may not necessarily be aligned with the participation rates that are eventually established by the Target Cost Estimate.

Regardless of which method is used, the participation rates should remain fixed regardless of the relative performances of the OAPs – ie. even if one OAP performs very well within the alliance and the other OAPs perform poorly, the sharing of pain:gain remains set at the predetermined participation rates.

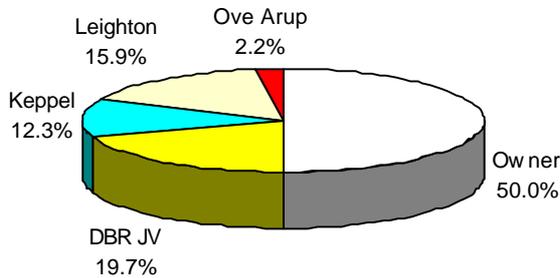
The normal practice, except in extreme cases, is for the participation rates to remain fixed even where a Variation increases the alliance scope of work and the distribution of that extra work is not in the same proportion as the original alliance participation rates. This approach underpins the fundamental alliance principles of collective responsibility and no blame and the concept that “we all win or we all lose together”.

5.6 Capital Expenditure KPI

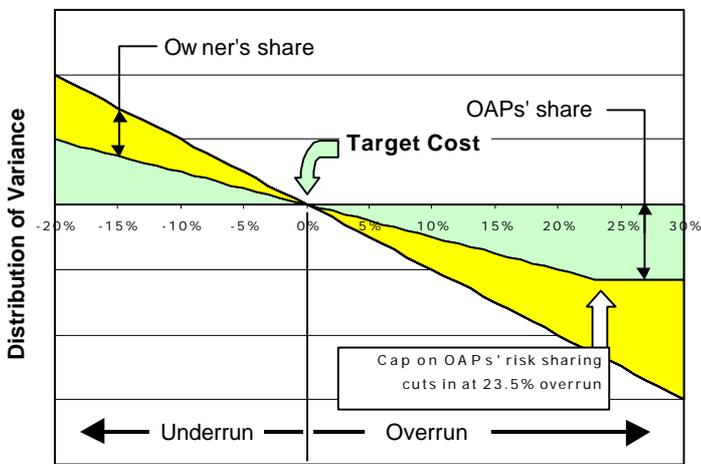
The sharing of actual cost underruns/overruns compared to the Final Target Cost is usually, but not always, the primary commercial driver. Although the risk:reward sharing ratios are open to negotiation, it is strongly recommended, in order to underpin and symbolise the equal nature of the relationship, that the owner assumes 50% of the pain:gain and the other 50% is taken up amongst the Other Alliance Participants (in proportion to their participation rates).

It is strongly recommended that cost overruns:underruns are shared between the owner and the OAPs on a 50%:50% basis

On the Wandoo Alliance¹⁵ the owner (Ampolex) assumed a 50% share of the risk:reward. As it turned out the project was delivered for \$13 million less than the Final Target Cost, so that this underrun was shared between the Alliance Participants as follows:



Using the figures from the Sample Estimate, the typical risk:reward profile for cost overrun:underrun might look as follows:



While at first it might seem the cap on the OAPs' risk means that the owner's overall risk exposure is much greater than the OAPs', in practice this is not the case. Using the figures from the Sample Estimate, and assuming no Variations, the actual costs would have to blow out by 23.4% compared to the Final Target Cost before the risk cap comes into effect. These kinds of cost overruns simply will not occur on a properly managed alliance.

5.7 Operating cost KPI

On projects where the performance of the OAPs has a significant influence on the on-going commercial performance of the asset when operational, it is appropriate to include KPIs which focus on operational performance (plant availability, efficiency etc.).

On the Wandoo Alliance¹⁵ 10% of the total amount paid to the OAPs under Limb 2 and Limb 3 combined at the time of handover remained at risk for the first 2 years of the operating period on the basis that:

- The OAP's could lose all of that amount through poor operating performance; or
- The OAPs could earn further rewards limited to 14% of the amount at risk, as a result of better than expected operating performance.

The fact that the OAP's put a substantial amount at risk while only having an opportunity to earn 14% of that amount in rewards is not inconsistent with the alliance principle of equitable sharing of risk and reward. Characterised as a "performance guarantee", the OAPs' larger downside risk reflected the reasonable expectation on the part of the owner (and the OAPs) that the owner would get a world class facility that met certain minimum performance standards. Holt¹⁸ has advised the author that the facility outperformed all the target performance criteria during the 2 year period and the maximum bonus would have been payable were it not for a period of reduced production when a compressor unit had to be replaced.

5.8 Time performance KPIs

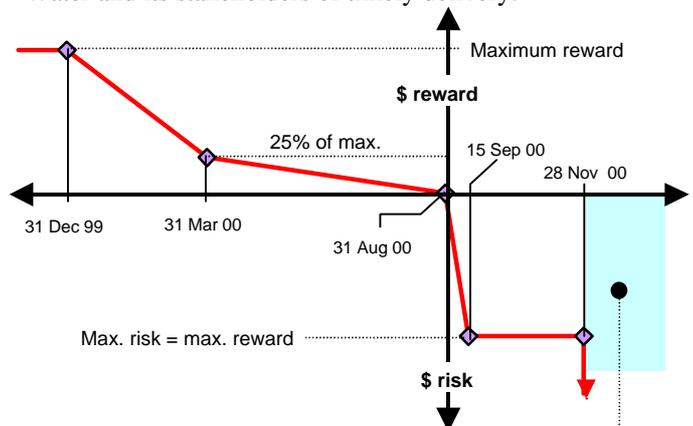
Timely delivery is nearly always of great importance to the owner on alliance projects since the need for timely delivery, notwithstanding uncertainties, is one of the main reasons for adopting an alliance in the first place. In some cases completion ahead of the target date means that the facility can be put into operation early thereby adding value to the owner in several ways, including:

- Additional / early unexpected revenue stream
- Earlier tax write downs
- Reduced cost of project financing

However, early completion is not always of significant value to the owner. For instance:

- (a) In the case of a process facility, early completion may be of no value because the upstream raw material feed or downstream distribution systems may not be available on time to facilitate early production; or
- (b) In the case of building or infrastructure projects, marketing initiatives or political commitments may be geared towards on-time completion with no particular benefit from early completion.

On the Northside Storage Tunnel Project¹⁶ the risk:reward profile for the time KPI was developed by the Alliance Participants to reflect the perception of value to Sydney Water and its stakeholders of timely delivery:-



If the Date of Practical Completion is later than 28 Nov 00 then this will be considered to be a FAILURE on the time KPI and the Fee otherwise payable is reduced significantly. This is intended to ensure that time performance is not sacrificed in a bid to achieve high performance (and rewards) in other

On the much smaller Norman River Bridge Project, where completion prior to the start of the 1999 wet season is essential, the Alliance Participants decided on a simple painshare:gainshare formula that embraces both cost and time performance - specifically:

➤ [50% x VAR_{TC}] + [50% x Days_{SEL} x \$V/day] where

VAR_{TC} = Variance +/- from the Final Target Cost

Days_{SEL} = No. of days early/late compared to the Target Completion Date (which has been set with a buffer prior to the traditional start date for wet season)

\$V/day = Perceived value/loss for each day early/late

5.9 KPIs other than cost and time

KPIs for assessing how well the alliance interfaces with pre-existing or parallel operations obviously have to be customised for each situation. In projects that involve expansion or upgrade of existing processing facilities it may be appropriate to have hard KPIs based on the number of actual disruptions to operations.

Quality performance does not feature largely in the risk:reward model because anything short of the specified quality is simply not acceptable and achievements beyond the specific quality requirements that add value to the owner are generally captured by other KPIs.

There are any number of ways in which performance can be measured in other areas such as safety, quality, environment, community. It is recommended that at least as much emphasis is placed on “lead / process” indicators as on “lag / outcome” indicators. A sole focus on outcome statistics is not recommended because:

- (a) this may have the effect of discouraging full and open reporting and recording of non-compliances;
- (b) sometimes problems occur despite first class effort and performance and the outcome statistics are not a fair reflection of the true level of performance.

The Alliance Team on the Northside Storage Tunnel Project (NSTP) has established a sophisticated system of benchmarking and measurement in safety, environment and community relationships. The NSTP system rates the performance of the alliance (and not just the OAPs’ performance) in each area on a sliding scale within the following three broad categories:

- Outstanding
- Business-as-usual (BAU) performance
- Poor (a failure)

A rating less than BAU in any area is considered to be a failure and, as in the time KPI, a failure in any area means that the Fee otherwise payable is reduced significantly. This is designed to ensure that performance in one area is not sacrificed in a bid to achieve high performance in other areas.

5.10 The purely subjective “Fee Modifier” system

On smaller or less sensitive projects a sophisticated system of benchmarking and measurement is usually not justified. On some alliances the parties use a simple subjective “Fee Modifier” process to assess performance in these less tangible areas. In a typical system, a group of “corporate sponsors”, one from each party, will meet monthly with senior persons from the Alliance Team. For each performance area, in the first instance each member of this “Fee Modifier Group” poses the following question in his/her own mind:

Compared to what I expected of the Alliance Team at the time the project started, how has the Alliance Team performed for the period since the last assessment?

and come up with a rating between 0.7 and 1.3 for each area using the following scale:

Answer to the question	Rating
Always exceeds expectations	1.3
Regularly exceeds expectations	1.2
Sometimes exceeds expectations	1.1
Generally meets expectations	1.0
Sometimes fails to meet expectations	0.9
Regularly fails to meet expectations	0.8
Always fails to meets expectations	0.7

The members of the Group then discuss their respective ratings for that area and arrive at an agreed consensus rating. Similarly ratings are determined for each of the other performance areas. Using pre-agreed weightings for the different areas the ratings are used to calculate a “Fee Modifier” that is applied to whatever portion of the Fee is due for that period for each of the OAPs - for example:

	Area Rating	Weighting %'s this period	Weighted scores
SAFETY	1.00	25%	0.250
QUALITY	0.90	15%	0.135
ENVIRONMENT	1.10	15%	0.165
CULTURAL / COMMUNITY	1.20	20%	0.240
ALLIANCE BEHAVIOUR	1.10	25%	0.275
		100%	

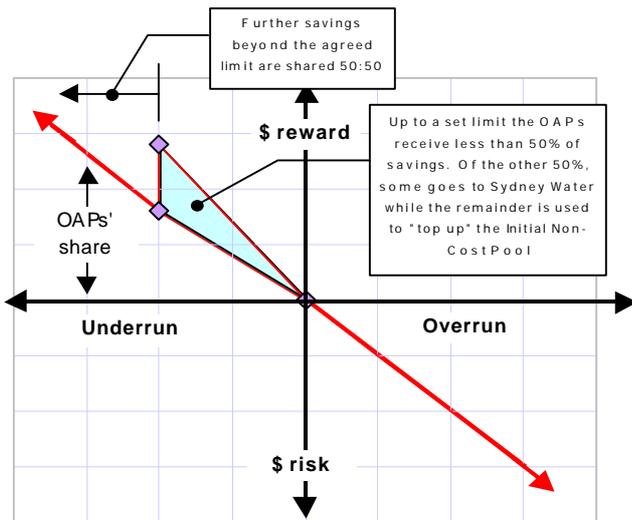
Fee Modifier for the period = **1.065**

Experience has shown that this process, if properly managed, provides a kind of catharsis and is particularly valuable in maintaining the health of the relationship. Contrary to what might be expected there is rarely a problem reaching a consensus and the more common scenario is that the OAPs’ initial ratings tend to be harsher than the owner’s!

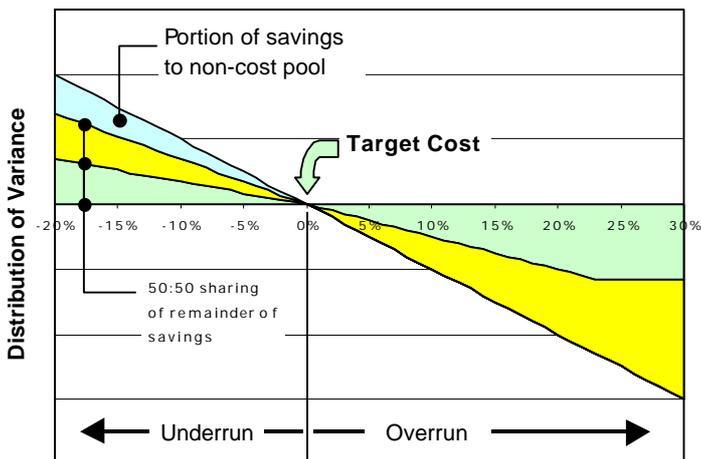
5.11 Funding non-cost KPIs

Rewards for cost performance are funded inherently, as by definition the rewards are only part of the savings generated by the better-than-expected performance. However owners need to make provision for funding rewards in non-cost areas, where the perceived value of better-than-expected performance is less tangible. In some alliances, the owner sets aside an initial pool to fund rewards in non-cost areas that is then “topped up” by a portion of any cost underruns.

On the Northside Storage Tunnel Project a portion of the owner’s share of initial savings (up to an agreed limit) is diverted to top up the non-cost pool, as illustrated below:



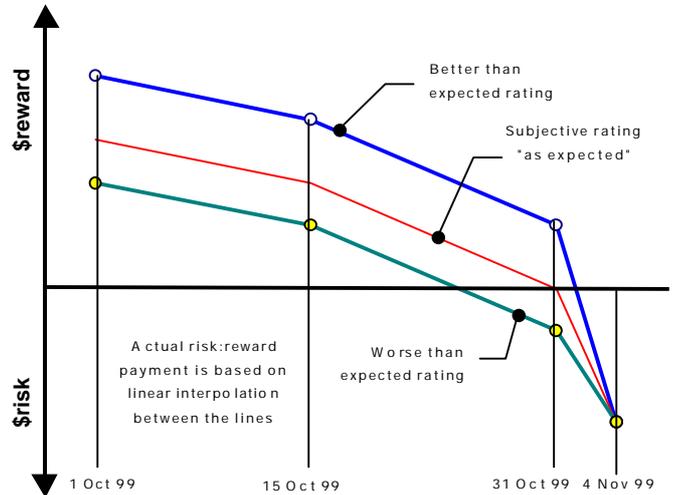
Under the ElectraNet alliance model, a pre-agreed percentage of cost underruns goes to the non-cost pool, with no limit, so the cost sharing profile looks as follows:



The pool does not operate as a “reward only” mechanism with no downside – rather, if the alliance performance is:

- a) better-than-expected - the OAPs receive rewards that are funded from out of the pool;
- b) as-expected - the OAPs receive no rewards;
- c) worse-than-expected - the OAP’s make payments to the owner up to limit of pool (subject to the overall capping limit)

On ElectraNet’s Penola West project the alliance team developed a simple method for linking non-cost KPIs. The reward for time performance (based on strictly objective completion criteria) is subject to modification based on subjective assessments (akin to the Fee Modifier process described in section 5.10 above) of performance in the other non-cost areas – as illustrated below:



Notwithstanding the need to talk about the outcome for individual OAPs when explaining the risk:reward model, it should never be forgotten that the performance being measured in all cases is that of the collective alliance, including the owner, and not the performance of the Other Alliance Participants.

5.12 Variations

The management of scope changes under an alliance bears little resemblance to the administration of Variations under a traditional form contract such as AS2124-1992¹⁹. Under an alliance model all the Alliance Participants are involved in the development of the Target Cost Estimate and have the opportunity to allow for inherent uncertainties consistent with the state of knowledge at the time. The Alliance Participants collectively assume all sorts of risks that are normally retained by the owner under a traditional “risk transfer” form of contract – such as:

- a) The costs associated with latent conditions, design evolution changes, mistakes by the owner, late delivery of owner-supplied materials, etc.
- b) The time delay associated with the above items and inclement weather and other neutral delay events.

In other words the Alliance Participants, through the Target Cost Estimate, assume collective ownership of all these risks. On this basis, to characterise an alliance as a “risk embrace” approach as distinct from the traditional “risk transfer” could be a little misleading since under an alliance the contractor assumes a share of certain risks that it would rarely take on under a traditional form of contract.

Under an alliance a contractor assumes (a share of) certain risks that it would rarely take on under a traditional form of contract.

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Of course the flipside of this is that the Alliance Participants must come to an agreement on what allowances should be made within the Target Cost Estimate. The owner cannot expect the Other Alliance Participants to take on a share of these risks unless there is a realistic premium / contingency allowed or built into the Target Cost Estimate to cover them.

As a general rule, unless agreed otherwise, the only things that should give rise to a Variation under an alliance are:

- a significant increase or decrease in the scope of work that has to be undertaken by the alliance. [eg. add in a building that was never part of the alliance scope.]
- a substantial change in the fundamental design parameters underlying the design basis. [eg. change design from a 4-lane to a 6-lane roadway.]

However, if it became necessary to increase the pavement thickness for the 4-lane roadway, or switch pavement types as part of the design development, then this would not be a Variation. Accordingly the tendency is to have very few or no Variations at all on alliance projects.

The mechanics of Variation administration under an alliance are generally simple – for instance;

- a) The owner and the Project Alliance Board (PAB) have the right to direct changes in the work.
- b) The PAB decides if the change is a variation and if so, what cost should attach to it (Var\$) and how that amount should be allocated to the various Alliance Participants (Var\$_{owner}, Var\$_{OAP1}, Var\$_{OAP2}, etc.)
- c) The Target Cost is adjusted by Var\$. [Unless agreed otherwise the sharing of overruns:underruns remains in proportion to the original participation rates – see section 5.5 above.]
- d) Fee for each OAP is adjusted by (Var\$_{OAP} x Fee%)

The following spreadsheet shows how a +\$1 million Variation might be costed using the figures from the Sample Estimate:

	A	B	C	D	E	F	G	H	I	J
1		Initial Target Cost Estimate				Adjusted for Variation 1				
2		\$ portion	Fee%	Fee\$	PR%	Var\$	\$portion adj	Fee adjust	Adjusted Fee	Adj. PR%
3	OAP1	85,000,000	12.0%	10,200,000	94.4%	500,000	85,500,000	60,000	10,260,000	94.2%
4	OAP2	5,000,000	30.0%	1,500,000	5.6%	300,000	5,300,000	90,000	1,590,000	5.8%
5										
6	Sub-total	90,000,000		11,700,000	100.0%	800,000	90,800,000	150,000	11,850,000	100.0%
7										
8	Owner	10,000,000				200,000	10,200,000			
9										
10	Totals	100,000,000				1,000,000	101,000,000			
11										
12										
13										
14										

Adjusted Target Cost

Unless agreed otherwise, pain:gain sharing remains at the original participation rate %'s (column E) and is not adjusted to reflect the impact of the Variation (column J)

Similarly it is up to the Project Alliance Board to decide if any of the target dates (upon which risk:reward is based) should be adjusted to take account of a Variation.

6 BUT WILL IT DELIVER BEST VALUE?

6.1 General

It goes without saying that an owner should only adopt an alliance approach, as opposed to some alternative delivery model, if it is satisfied that the alliance model will deliver the best overall value for the owner's investment.

An owner should only use alliancing if satisfied it will deliver best overall value for the investment

Under a traditional model the owner gauges the relative value of the various competing contractors by inviting tenders either on the open market or from a select group of preferred tenderers. In a mature open market economy such as exists in Australia, strong competition amongst contractors ensures that tendered prices are not artificially inflated. However, under an alliance the "price" is negotiated and the owner has no definitive way of testing the negotiated price against the open market. So the owner must pose the following important questions:

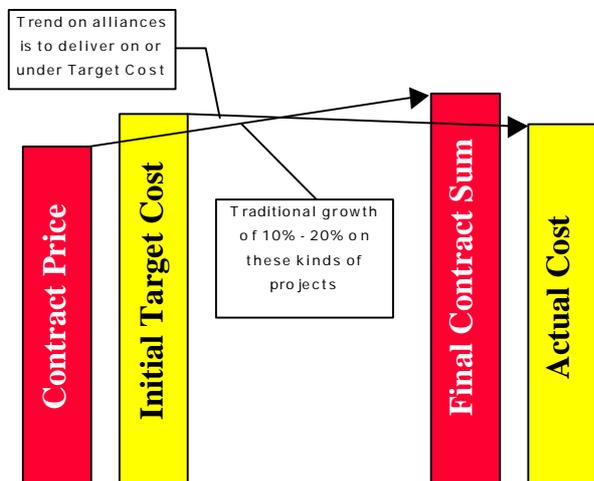
- 1) How can I be sure that the alliance model will deliver me better value than a traditional approach?
- 2) How do I know that the Target Cost is not artificially inflated above prevailing market prices?

Unfortunately there are no simple or short answers – the owner must make a judgement based on an informed assessment of the many complex issues involved. This section explores some of the issues that the owner, in making that judgement, should take into account. The above questions are particularly problematic for public sector owners. How does a government agency satisfy the always intense yet often ill-defined standards of public accountability without the benefit of its well-honed competitive tendering procedures? Because many of the alliances in Australia have been on public sector projects a number of processes have evolved to meet or exceed the current standards of probity in Australia.

While some of these processes discussed below have been developed primarily to meet the need for probity on public sector projects the author recommends that they should also be implemented, at least to some extent, on private sector alliances because in general they are prudent management initiatives that will improve the quality of administration.

6.2 Direct cost savings?

Although there does not appear to be a body of supporting hard evidence available in the public domain, based on the author’s own experiences and hearsay within various sectors of the industry, on the kinds of projects that are inherently suited to an alliance the contract price traditionally grows in the order of 10% to 20% as a result of Variations throughout the course of the contract. In contrast alliance projects tend to be delivered on or ahead of budget.



Of course this does not definitively answer the question because there is no way of knowing for sure how the Target Cost compares with the initial contract price that could have been secured in the open market.

At best, one can speculate that at the end of the day, on those types of project that are best done under an alliance (see section 3 above), the eventual expenditure is less than what it would have ultimately cost under a traditional model.

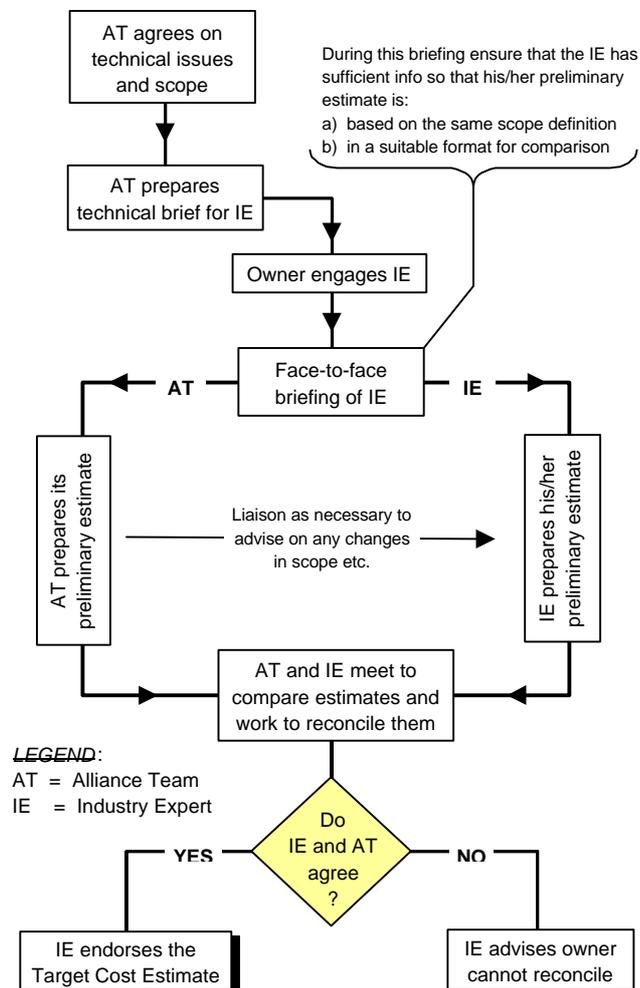
However owners are usually not motivated to adopt the alliance approach on the basis of potential immediate cost savings alone. More likely it is the assurance of:

- timely completion
- quick, cooperative and effective response to unpredictable events;
- emphasis on life-cycle rather than project-cycle costings; and
- better management of all the stakeholders

combined with the possibility of lower direct costs that persuades an owner to adopt the alliance approach.

6.3 Developing the Target Cost Estimate

It is normal practice on public sector projects to engage an Industry Expert to undertake an independent estimate or at least do a “sanity check” on the Target Cost Estimate. It is suggested that the process be conducted in accordance with the following flowchart:



The Industry Expert’s preliminary estimate might be a budget-style estimate using industry indicators for material costs and unit costings or it could entail a very detailed first-principles elemental estimate.

Although it should be the owner, and not the alliance team, that engages the Industry Expert, the formal written briefing for the Industry Expert is usually developed by the Alliance Participants so that all parties are comfortable with and fully committed to the process. The owner of course must engage an Industry Expert who is acceptable to the Other Alliance Participants.

No matter how the process is clothed it still amounts to a negotiation. It is important that the negotiation process is conducted in a manner that is consistent with the alliance principles of openness, mutual trust and respect. This does not mean that the parties should adopt a “soft negotiator”, as such an approach can ultimately be just as destructive as the “hard negotiator” approach. What is required is a “**principled negotiation**” as described by Fischer, Ury & Patton²⁰.

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The development of the Target Cost Estimate is perhaps the first real test of the integrity of a new alliance. The author's experience is that although it tends to be a difficult and time consuming process, invariably the parties do reach agreement and the process, if conducted properly, strengthens the relationship.

Depending on the circumstances it may be necessary to have a probity auditor to attend any joint sessions with the Industry Expert to provide independent assurance that the integrity of the Industry expert is not compromised.

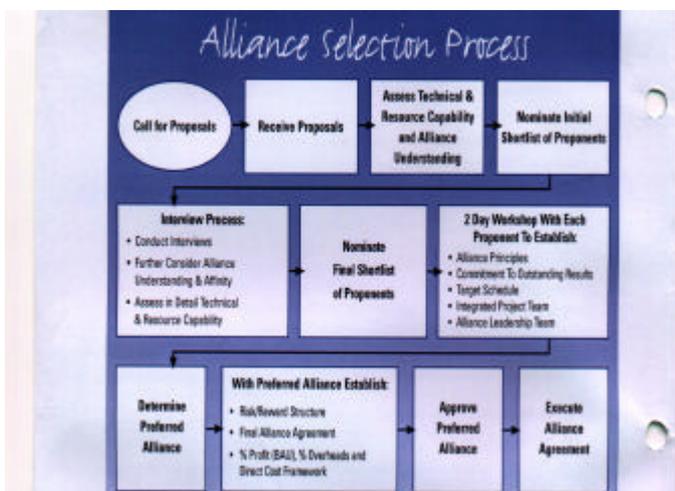
7 SELECTION PROCESS

7.1 Overview

Without any doubt, the most important step for the owner along the path to a successful alliance outcome is to choose the right partner(s) in the first instance.

While the contractual framework provides a way out for the owner at any time (see section 8.5 below) it would cause a serious setback to the project if the owner had to abandon the alliance and seek alternative contractors. So the selection process must be so robust that it is almost impossible for the "wrong" type of contractor to survive the process.

The following diagram shows the selection process used on the Northside Storage Tunnel Project as it appeared in the NSTP Call for Proposals document²¹.



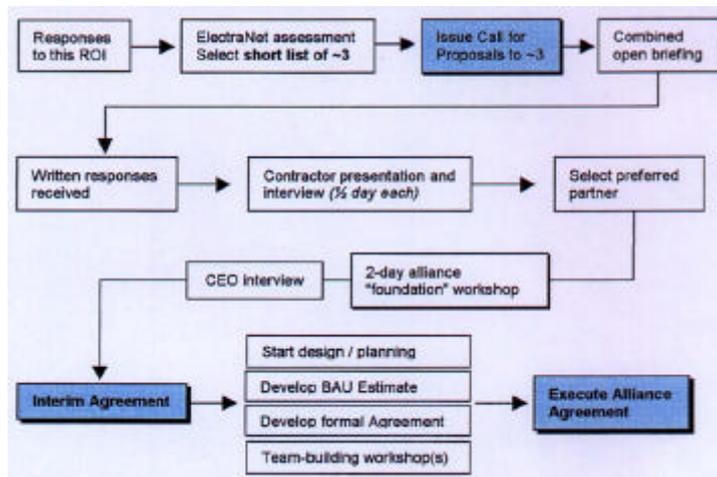
While the NSTP process is generally appropriate (at least for large projects) the author believes that certain commercial parameters including:

- the Fee%; and
- the framework for risk:reward sharing

should be canvassed with a shortlist of 2 or 3 proponents while they are still in a competitive environment, prior to the selection of the preferred proponent.

The author believes the process can be "condensed" on smaller projects, to keep the cost consistent with the smaller scale of the project, without compromising the integrity of the process.

The following diagram shows the process used by ElectraNet to choose its partners for the ElectraNet strategic alliance as it appeared in the Call for Registration of Interest document²²



7.2 The CEO meeting / handshake

A feature of the ElectraNet process was the requirement for a brief eye-to-eye meeting and handshake between the chief executives of the parties. This is considered to be a vital step in ensuring that the commitments to alliance principles and to adopt a best-for-project approach are honoured.

The author's experience across dozens of relationship-based contracts in Australia is that once a promise, properly understood, is given at this level CEOs will go to extraordinary lengths to make sure that their promises are not dishonoured.

The author's experience... in Australia ... is that once a promise ... is given ... CEOs will go to extraordinary lengths to make sure that their promises are not dishonoured.

7.3 Selection criteria

The selection process can be adjusted to suit the particular circumstances for each project. The important thing is to ensure that proponents are rigorously assessed against the right criteria. Typically the preliminary screening should test against the following broad criteria:

- 1) Demonstrated technical, financial and management capacity to handle the scope of work.
- 2) Understanding of and commitment to the alliance way of doing business.
- 3) Track record and demonstrated capacity in the management of safety, project systems, quality, environment, community relations, areas of safety, etc.
- 4) Willingness to commit to the project objectives and demanding "stretch" goals.
- 5) Track record / demonstrated ability of proponent companies to work with each other.

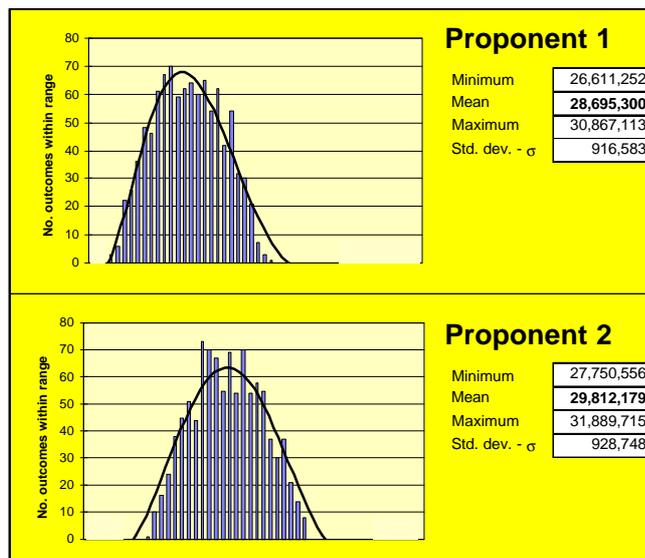
In addition to the above criteria the shortlisted proponents should also be evaluated against the following project-specific criteria:

- 1) The quality of the key personnel proposed.
- 2) Preliminary ideas on innovations and execution strategies.
- 3) Commercial parameters including Fee% and perhaps unit costs of key staff and owned equipment.

7.4 Financial Modelling of Commercial Information

In the absence of any defined scope of work or preliminary costings it is difficult to establish any objective benchmark for the comparative evaluation of commercial information. Given the subjective nature of the overall evaluation process, it is usually enough to make a subjective rating on the commercial criterion, based on the information provided.

However, for owners that want to make this aspect of the evaluation as objective as possible, the information put forward by the shortlisted proponents can be inserted into a financial model that tests the relative cost impact across a randomly generated range of possible scenarios in order to arrive at a predicted overall comparative cost outcome for the proponents. A typical sample output is illustrated below.



7.5 Probity of the selection process

It is essential for public sector projects that all stages of the selection process are monitored by a suitably qualified probity officer.

The probity officer should only intervene when necessary to ensure that the process is consistent and fair to all proponents.

Upon completion of each stage the probity officer should provide the owner with a signed report briefly explaining the process and confirming that it has been conducted in a fair and consistent manner.

7.6 Evaluation vs. alignment workshops

Given the importance of the “relationship” factor in alliancing (see section 9 below) it is not surprising that “workshops” play a key role at all stages of the alliance process. The workshops during the selection process have 3 primary aims:

- ❶ To educate and inform
- ❷ To assess / evaluate
- ❸ To align the parties and start to build the team

It is recommended that a clear separation is maintained between these concepts during the selection process so that attempts at team building and alignment are not confused with the process of evaluation / assessment. The author’s experience is that evaluation workshops, if conducted in good faith without disguising or confusing their primary purpose, do set the basis for an excellent relationship later on.

Under the ElectraNet model, the Preferred Proponent is selected ahead of the other shortlisted proponents prior to the “Foundation Workshop”. The Foundation Workshop is then conducted unambiguously as a team building and alignment workshop as the last step before entering into the first stage of the Alliance Agreement.

8 LEGAL / CONTRACTUAL FRAMEWORK

8.1 General

It is beyond the scope of this paper to address the legal framework in any detail. The purpose of this section is to give an overview of contractual structures and identify some key issues to consider for each alliance.

8.2 The Single Alliance Agreement

On the Wandoo Alliance there was a document called the “Alliance Agreement” which covered issues such as:

- purpose, objectives and design basis
- the Alliance Principles
- terms of compensation including risk:reward sharing

The Alliance Agreement sat as the “umbrella” agreement over the top of a series of separate “works contracts” between the owner, Ampolex, and each of the Other Alliance Participants. Each works contract covered items such as:

- detailed specific scope of work
- required standard of work
- provision of materials and plant
- detailed methodology for reimbursement of costs

In its publication about the Wandoo project¹⁵ the Wandoo Alliance makes the following statement:

“Ampolex perceived the need for the works contracts as a precaution in case the Alliance unravelled. The works contracts were not used at Wandoo, and such contracts are not considered to be necessary in future project.”

Consistent with that advice, nowadays all the various terms including the respective rights and obligations of all the parties are usually contained in a single “Alliance Agreement”.

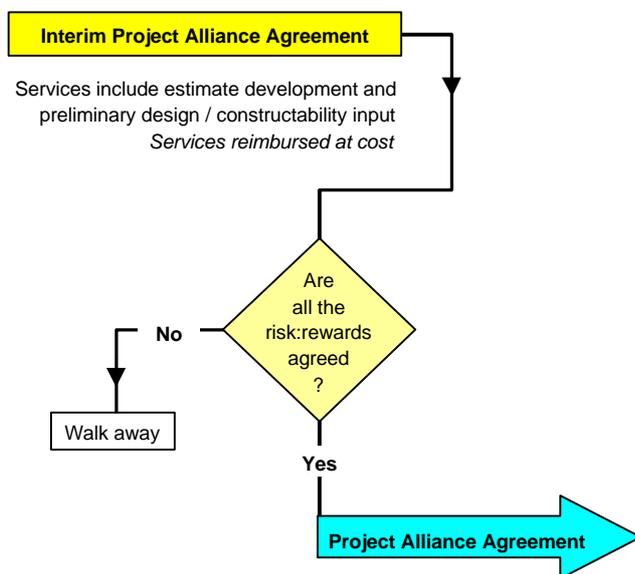
Where two or more companies have formed a consortium in a bid to be chosen to join the alliance they usually already have some form of joint venture or teaming agreement in place. The preferred practice is for the Alliance Agreement to set out all the terms between all the parties, thereby superseding whatever is contained in any joint venture / teaming agreement. In this way all the parties in the alliance are fully aware of the rights, obligations and expectations of all the other parties without any suspicion of hidden or conflicting agendas.

8.3 Staged implementation

There has to be a mechanism that allows the parties to “walk away” in the event that they cannot agree on the Target Cost Estimate. On most of the major alliances to date this has been achieved within the provisions of the Alliance Agreement.

On the ElectraNet and Norman River Bridge alliances, the same end was achieved by using a 2-stage agreement process that was better suited to their internal approval and financial delegation processes.

Under this 2-stage process, the parties initially enter into an interim arrangement called the Interim Project Alliance Agreement (IPAA) and only proceed to the full Project Alliance Agreement if the Target Cost Estimate and all the other risk:reward parameters are agreed.



The Preferred Alliance Participants are reimbursed at cost for their services during the IPAA period. They recover a margin only if the Project Alliance Agreement is entered into. If the parties fail to reach agreement on the commercial parameters or for any other reason no PAA is entered into, then the Preferred Alliance Participants recover no margin and the owner is free to take over and use whatever work has been done during the IPAA period.

Under the IPAA, which is very similar to a simple professional services agreement, the owner and the other parties (called the Preferred Alliance Participants at this stage) work intensively on pre-site activities including:

- 1) Preliminary / detailed designs
- 2) Planning and early procurement activities
- 3) Constructability and value-engineering analysis
- 4) Participation in risk management sessions
- 5) Development of the detailed scope of work to be undertaken by the alliance and the preparation of a preliminary detailed estimate for that scope of work.
- 6) Liaison with the Industry Expert (see 6.3 above) to arrive at a reconciled Target Cost Estimate.
- 7) Preparation of a Project Execution Plan
- 8) Preparation of formal management plans including safety, environmental, community, etc.
- 9) Participation in Alliance workshops as necessary
- 10) Work with the owner to finalise the detailed form and content of the eventual Project Alliance Agreement, including details of the non-cost incentive parameters.
- 11) Establish suitable integrated project control systems

This 2-stage process provides a very distinct and easy escape for all parties in the event that no agreement can be reached on the Target Cost Estimate or the other commercial parameters. It also has the following features that may be attractive in certain cases:

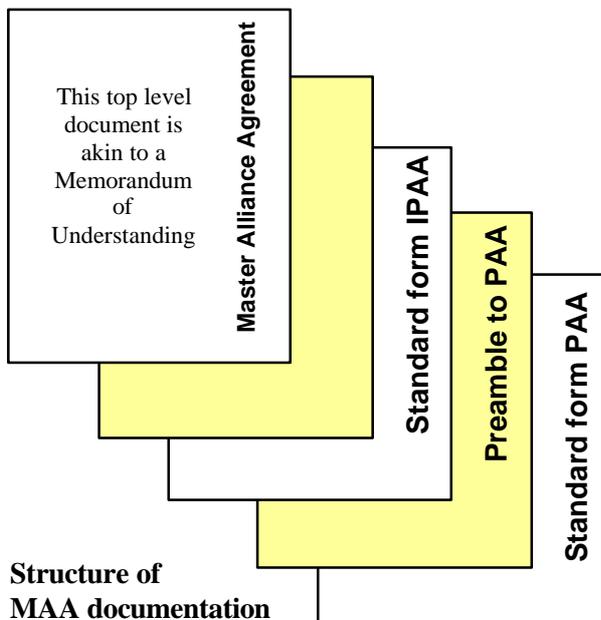
- a) Work can commence in earnest on the basis of a very simple interim agreement without the need to negotiate the detailed terms of the Project Alliance Agreement.
- b) Work can commence under the IPAA under an interim budget that is within the delegated authority of the owner’s executive officers without the need to gain approval for the entire capital budget.
- c) The parties have the opportunity to work together on the final form of the PAA itself.
- d) The compensation arrangements can be set out in specific (rather than general) terms in the Project Alliance Agreement since the Target Cost Estimate and all the other commercial parameters are agreed by the completion of the IPAA period.

Furthermore the distinct shift from an interim “provisional” agreement (the IPAA) to a comprehensive full-blown Project Alliance Agreement corresponds neatly with the psychological shift in the relationship as it moves past the “principled negotiation” stage to complete alignment of commercial interests.

There is no “right” or “wrong” process. The important thing is to make sure that the development and implementation of the alliance are tailored to suit the particular circumstances and are carried out in a manner consistent with the alliance principles.

8.4 Multi-project alliance framework

The ElectraNet alliance is different to the other alliances noted in section 4.2 in that it applies to a range of projects over a period of up to 3 years. The contractual framework comprises a “Master Alliance Agreement” (the MAA) that contains standard form IPAA and PAA documents. The “Preamble to IPAA” and “Preamble to PAA” provide simple guidelines on how the standard form IPAA and PAA documents are to be customised for each project.



Under the MAA ElectraNet has undertaken to invite the “Preferred Alliance Partners” (provided ElectraNet is satisfied that they have the necessary capacity at the time) to form an alliance on future ElectraNet capital works projects that ElectraNet deems suited to an alliance. So far three projects have been identified and work had started on two of them. For their part the Preferred Alliance Partners have undertaken to make every reasonable effort to allocate resources so that they take up each offer.

All parties have committed to the commercial and other terms embodied in the MAA including the Master Alliance Charter that was developed and signed by all the participants at the Foundation Workshop.

In its Call for Registration of Interest²² ElectraNet said

“The current rapid pace of change in the electricity industry in Australia is unprecedented. The key players must find new ways of doing business which meet the challenges of a rapidly changing marketplace. ElectraNet intends to remain at the cutting edge of the industry by developing and implementing innovative commercial practices which not only keep pace with changing needs but set the standard by which others will be measured.”

By all reports to date the MAA is giving ElectraNet the strategic advantage that it set out to secure.

8.5 Key features of the PAA

The Project Alliance Agreement for the single-stage process is by necessity drafted in more general terms than the more specific type of PAA used in the 2-stage process described above. Regardless of which approach is used, the PAA must enshrine the key features listed in section 4.1 in a clear and legally effective manner.

In the author’s view none of the standard forms of construction contract currently in use in Australia is a suitable starting point for drafting a Project Alliance Agreement. Some of the “stand-out” features that distinguish a Project Alliance Agreement from the more traditional forms of construction contract include:

- ❑ The contract is governed by the Project Alliance Board and its decisions must be unanimous.
- ❑ Nearly all the performance obligations are stated to be collective (as opposed to individual). Consistent with this “no-blame” philosophy:
 - a) There is usually an express provision which states that none of the performance obligations will give rise to enforceable rights at law or in equity, except in the case of a “wilful default”
 - b) There is no recourse to litigation or arbitration except for wilful default. Any disagreements will have to be resolved by the Project Alliance Board (with unanimous agreement).
 - c) There will be no liquidated damages of any sort and no provisions dealing with extensions of time.
- ❑ Contract Works insurance, including no-blame errors and omissions coverage for professional negligence, arranged on a best-for-project basis.
- ❑ The Alliance Participants are collectively responsible for attending to defects that arise after Practical Completion. Any costs involved are taken into account in the normal 3-limb compensation model.
- ❑ On larger projects payment of painshare:gainshare is made progressively based on monthly forecasts of eventual outcomes.
- ❑ Payment regime designed to make it close to cash neutral for the OAPs.
- ❑ Owner has the right to terminate for convenience at any time in which case payments are reconciled in accordance with the 3-limb compensation model in direct proportion to the status of completion at the time of termination.
- ❑ The OAPs do not have the right to terminate for convenience (although both parties have the right to walk away from the IPAA at any time)

In the author’s view none of the standard forms of construction contract currently in use in Australia is a suitable starting point for drafting a Project Alliance Agreement.

8.6 Special legal considerations

The following legal issues in particular need to be considered carefully during the development of the Project Alliance Agreement:

- Consequential loss – limitation of liability
- Insurances and indemnities
- Effectiveness of “no dispute” provisions – ousting of the jurisdiction of the court
- Termination - rights / obligations upon default
- Joint and/or several liability to 3rd parties
- Increased exposure to liability under safety, environmental legislation (especially relevant to owners in public sector).
- Audit / probity issues

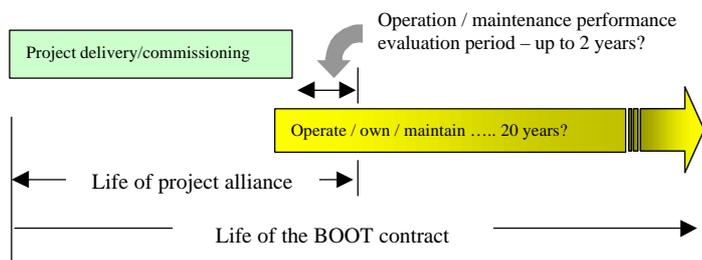
8.7 Management of subcontracts

It is up to the Alliance Team to develop and implement appropriate subcontracting strategies based on the best-for-project principle. A detailed discussion of this topic is outside the scope of this paper. In general terms a subcontractor might be engaged under any of the following arrangements:

- a) A “sub-alliance” arrangement intimately linked to the main alliance. Under this arrangement the “sub-contractor” would probably take up a position on the Project Alliance Board.
- b) Some form of open-book incentive based contract linked to KPIs that mirror or support the KPIs in the main alliance.
- c) A more traditional schedule of rates or lump sum type arrangement.

8.8 Project v. on-going responsibilities

The aim of a project alliance is to deliver the project. This clear function should not be clouded by any on-going long-term ownership, operations or maintenance responsibilities attaching to some of the OAPs. The inclusion of on-going responsibilities provides a more robust alignment of commercial interests and should enhance the effectiveness of the project alliance – but should not alter the fundamental purpose of the project alliance. The “sun should set” on the project alliance within a reasonable time. Typically, some period will be needed beyond commissioning to measure the performance of the project in operation. The period of time will depend upon the nature of the project but generally does not exceed 2 years.



9 THE HUMAN DIMENSION

9.1 General

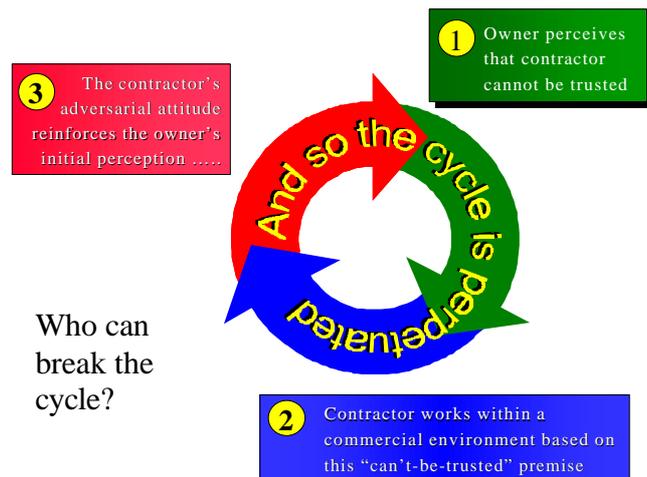
A project alliance is not based on altruism or blind trust – first and foremost it is a business relationship designed to deliver optimum commercial benefits to all parties involved.

However, more than anything else successful alliancing is about people and successful relationships. While it is very important to get the various commercial and legal structures “right”, no matter how well they are set up they will not amount to much if the relationship fails.

In a project alliance the relationship “is everything” and cannot be taken for granted. Even where the parties have established a close business relationship on previous projects (and this is highly desirable), it is still important to build the relationship “from the ground up” on each specific project.

9.2 Trust and alignment

The traditional procurement / contracting model tends to give rise to a “cycle of mistrust” within the industry as illustrated below:



The Cycle of Mistrust

- 1 The owner having been at the receiving end of claims from contractors, set up the procurement and contracting model on the basis that contractors are difficult to deal with and cannot really be trusted.
- 2 In order to compete effectively the contractor has to “play the game” within a commercial environment predicated on this can’t-be-trusted premise. This usually in adversarial conduct.
- 3 The contractor’s adversarial conduct reinforces the owner’s original perception that contractors cannot be trusted and strengthens its resolve to be even tougher the next time. And so the cycle is perpetuated.

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There is not much that contractors can do to break this cycle as the framework that sets the project culture is usually well established by the time the contractor becomes involved. It is really up to the owner to break the cycle – but to do so the owner:

- must have a sophisticated understanding of the nature of its risks (see section 3 above); and
- be prepared to trust the contractor.

The key to the successes being achieved under project alliances is the owner's willingness to "go all the way" by giving up its traditional "master-slave" power advantage and entering into a true peer relationship where all decisions must be unanimous. More than any other single aspect of alliancing this gesture by the owner gives rise to a complete turnaround in the way the contractor approaches the relationship.

The author's experience across many contracts is that when the owner places trust in a construction contractor in a properly established and well managed cooperative environment, without exception that trust is reciprocated in full, even by contractors who may have an aggressive claims history.

9.3 Relationship management – tools & strategies

The relationship is of such paramount importance to the success of an alliance project that it is essential to have tools in place to effectively monitor and attend to the health of the relationship – in the same way that time, cost, quality etc. would be monitored under a traditional contracting model.



In an alliance environment, with the right people equipped with the right mix of skills, if the relationship is kept healthy then the process is almost guaranteed to deliver optimum outcomes in time, cost, quality etc.

A skilled facilitator is essential to assist with team building and alignment and the management of cultural change. There are several skilled facilitators around Australia who have demonstrated their ability to establish and maintain healthy and robust relationships in high performance alliance teams.

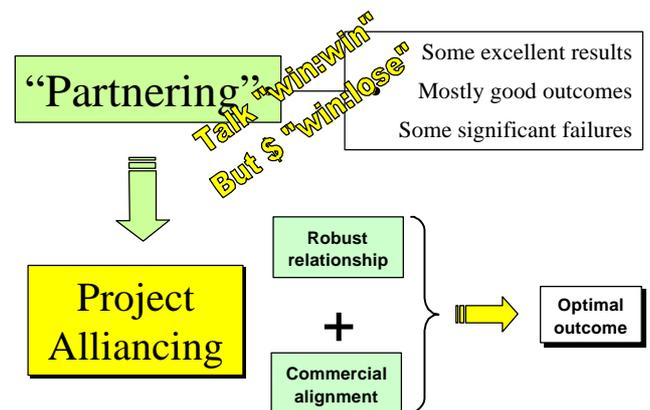
Where a company has the necessary skills in-house an external facilitator may be needed from time to time to supplement the in-house resources or to provide a fully independent perspective.

It is recommended that someone with very strong interpersonal skills who knows the project and the project team well but who is not so close that they are likely to be part of the problem assume the role of "relationship champion". The relationship champion should take prime responsibility for identifying potential people problems and taking or initiating action to avoid or contain them.

In general the relationship management "tools" are the same ones that have been used widely on partnering projects – typically:

- alignment and team building workshops
- partnering charter / alliance charter
- self-assessment and review workshops
- feedback forums

However, the drive towards a win:win culture in partnering is inherently constrained because it is conducted against a commercial framework that remains inherently win:lose. The close alignment of commercial interests under an alliance provide the ideal background for partnering processes to deliver truly outstanding outcomes.



It is the combination of commercial alignment and intense relationship management under an alliance that delivers optimal project outcomes.

Ideally the whole alliance team should operate from a project-specific alliance office. This makes it much easier to develop the "virtual company" spirit where all team members identify with the project first rather than their actual employer. However it is not always feasible or economically viable to consolidate the team into one location and in such cases one of the greatest challenges for the alliance is to establish communication systems that establish a cohesive project culture despite the physical separation of different members of the team.

The creation of a project identity represented by a symbolic logo is highly desirable. Typically the project logo is worn as a badge of pride by the alliance team members. Similarly a project magazine is a most useful communication tool and can be used to great effect to provide recognition of outstanding performance and effort within the team.

9.4 Core values and principles

The alignment of commercial interests removes one of the main barriers to aligned behaviour. However that in itself is not enough to make people rise above “business-as-usual” behaviour. People do not naturally or easily alter their behaviour patterns. However people do change when faced with something that they see as worth striving for – something that gives them a strong sense of purpose. The challenge in an alliance is to provide the team with something that is really worth striving for and a set of values and principles that ensure appropriate behaviours in the pursuit of that goal.

People do not naturally or easily change their behaviour patterns.... they need to be given something worth striving for ... a sense of purpose.

It is essential that every member of the team makes a deep commitment to the core values and behavioural principles that form the philosophical heart of the alliance. Little will be gained by adopting a set of generic values and principles. In fact better to do nothing at all than to write down values and principles to which there is no real commitment.

Better to do nothing at all than to write down values and principles to which there is no real commitment!

Our core values are those things that we hold most dear – the overriding principles we are prepared to live by – our personal code of ethics. People tend to behave within accepted limits because they want to be accepted into the society in which they live. Society tends to ostracise a person who behaves outside the core values of that society. The alliance team should operate like a society in microcosm – ie. to retain social acceptance within the society, each person must behave in accordance with the core values of the society.

During the early team building stages the alliance team should spend some time examining its core values. The author’s experience is that people in the Australian construction industry (and no doubt throughout the world) value very similar things. For instance at two recent and completely independent foundation workshops (in different states) the groups were asked to reach a consensus on a set of 6 core values “to which they were totally committed and in which they held a fundamental belief”. The two lists appeared as follows in the respective Alliance Charters:

W’shop 1 (~25 people)	W’shop 2 (~20 people)
1) Trust	1) Trust
2) Respect	2) Respect
3) Integrity	3) Openness
4) Determination	4) Enthusiasm
5) Openness	5) Integrity / Honesty
6) Enthusiasm	6) Commitment
7) Fairness	7) Fairness

It is worth noting that both groups insisted on the need to include a seventh value to the list as they could not get consensus on just six! Notwithstanding that the list will probably end up almost the same for most groups it is important for each alliance team to take the time to explore its value system before the individuals make the commitment to live by it.

Similarly each alliance team should develop its own set of specific behavioural principles and not just pay lip service to the alliance principles set out in the invitation documents. For instance, the ElectraNet Call for Registration of Interest²² set out the following key principles upon which the ElectraNet alliance was to be founded:

- A peer relationship based on mutual respect and trust.
- A totally integrated project team where people are selected on a “best-for-position” basis regardless of employer.
- An equitable balance of risk and reward such that the commercial interests of all parties are reasonably aligned.
- A no-blame project culture where the primary focus is always on finding optimum project solutions.
- Innovation, breakthrough thinking and intelligent risk-taking to achieve outstanding project and business outcomes.
- A willingness to commit to demanding targets which are beyond current world best practice (“stretch goals”).
- Fully open-book project accounting.
- Excellence in leadership with a high sense of personal job satisfaction for all members of the project team.

Against that background the team members at the foundation workshop, after many hours of discussion and debate, committed to a set of Master Alliance Principles that provide a practical personal code of behaviour for each person for any project carried out under the MAA:

Alliance Principles

We will promote a safety culture based on a belief that all injuries are preventable

and we will:-

- Encourage innovation and the development and acceptance of ideas
- Select project personnel on “best for position” basis
- Honour commitments and act decisively
- Be willing to commit to challenging targets
- Foster team behaviour and team spirit
- Communicate openly and effectively
- Adopt a “no blame” attitude
- Strive for continual improvement
- Recognise exceptional performance
- Be sensitive to the community and the environment
- Provide opportunity for personal development

9.5 Infecting the wider team / worker gainsharing

It is important for core alliance management team, having taken up the alliance challenge, to use its leadership skills to infuse project personnel at all levels with the same vision and enthusiasm.

It may be appropriate to implement a worker and/or staff gainsharing scheme. However, worker gainsharing schemes can easily backfire if not managed very carefully. They need to be developed within a clear and coherent set of guiding principles to suit the particular circumstances of the project. While uniform project-wide gainsharing has been very successful on some CRPI projects, it is not really a practical option unless the majority of personnel are working for employers operating under open-book contracting arrangements. In the author's experience there are generally inadequate management processes in place to identify and deal with the complex issues associated with the development and implementation of worker gainsharing schemes. The result is that such schemes usually fail to deliver the tangible value that they should. The alliance team should either deal with the process properly or not embark on it at all.

10 SUMMARY OF BENEFITS AND RISKS

10.1 Main benefits to the owner

From the owner's perspective, the main benefits that can be realised by adopting the alliance approach (in the right circumstances) are:

- 1) Much greater likelihood of on-time or **early completion** as a result of:
 - Better / flexible management of scope changes
 - Focus on solutions, not on positions
 - Aligned behaviours in the face of adversity
 - Increased levels of innovation
 - Collective and aligned strategies to manage inherent risks and external threats
- 2) Optimum life-cycle cost / performance
- 3) Potential for **lower capital costs** as a result of:
 - Constructability input at early design stage
 - Improved / innovative execution strategies
 - Elimination of needless duplication of people, systems and facilities
 - No time / cost expended on protecting positions
 - 50% sharing of cost savings
 - Aligned behaviours in the face of adversity
 - Collective and aligned strategies to manage inherent risks and external threats
- 4) Significant **increase in owner's skills** in the understanding and hands-on management of construction resources
- 5) **Increased job satisfaction** for owner's staff leading to overall improvement in organisational culture.

One of the features of an alliance is the ability to achieve success in the face of adversity. A good example of this occurred on the Wandoo Alliance¹⁵ where a breach of the casting basin bund wall flooded the partially constructed concrete gravity structure (CGS), shown in its almost completed state in the picture below.



Wandoo CGS being prepared for floatout from the casting basin in Bunbury WA.

If an event of this magnitude occurred under a traditional contracting model the parties would probably have immediately mobilised significant resources in an attempt to protect their respective contractual positions. Initiatives to develop and implement a recovery strategy would likely have been coloured and perhaps constrained by commercial imperatives. There were no such impediments on Wandoo – the Alliance Parties immediately turned their collective energies to finding a solution – it did not matter who was to blame. The team set very ambitious stretch goals in terms of time and cost to recover the situation. While it took a little longer to fix the problem than the stretch target, the overall project was delivered ahead of time and under budget without any “claim” or “variation” for the bund wall event. One can only speculate what the time and cost implications might have been under a traditional contracting model.

One can only speculate what the time and cost implications might have been under a traditional contracting model.

10.2 Benefits to the contractor

The primary benefits to the contractor of the alliance approach include:

- 1) Potential for good return with acceptable and manageable levels of risk.
- 2) Enhancement of reputation
- 3) Increased prospects of repeat and referred work
- 4) Strengthening of relationship with owner and other Alliance Participants.
- 5) Increased job satisfaction for staff leading to overall improvement in organisational culture
- 6) Opportunity to learn more about the owner's business culture and management strategies.

10.3 Main risks and strategies to manage them

The author is not aware of any project alliance that has “failed”, however based on his experiences of other “lesser” forms of cooperative open-book contracts, the main reasons for failure or sub-optimum performance may be summarised in four groups as follows:

❶ Establishment errors by the owner

- **Lack of owner understanding**
(of the process, the risks and the things that are essential to make it work)
- **Wrong partner(s)**
One or more of the doers was not appropriate for relationship contracting
- **Lack of commitment**
Either by corporate sponsors or by personnel assigned to project

❷ Strategic errors by the owner

- **Used as “recovery” strategy**
For a project that was already in distress
- **Gross budget under-estimate**
Inadequate clarity of scope with insufficient contingencies. Using indicative costings out of context
- **CRPI packages too many, too small**
- **Exclusion of key stakeholder**
One or more of the key stakeholders or influencers is excluded from the alliance process (eg. design team, operator, access provider, government etc)

❸ Relationship failure

- **Lack of trust / openness**
Giving rise to suspicion and erosion of the relationship
- **No relationship management**
No effective strategies in place to maintain and strengthen the health of the relationships
- **Wrong people / B team**
People were inherently adversarial rather than consultative and/or 2nd grade team

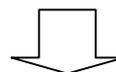
❹ Management shortcomings

- **Poor organisation / leadership**
Lack of efficient decision making. Bad team management organisation
- **Design poorly managed**
Bad communication, poor interfaces, “design lag syndrome”
- **Poor interface with operator**
Interface problems, poor transition to commissioning, poor use-ability, over-expenditure on non-cost justifiable operator features

10.4 Strategies to ensure success

Although there can never be any way to definitively compare the relative merit of one management method versus an alternative, the author believes that the alliance model is almost sure to deliver the best value outcome for the owner, provided

- a) the owner, having acquired a good understanding of the principles underlying alliancing, uses the alliance approach only on projects where the conditions call for it to be used (see section 3 above); and
- b) having elected to use the alliance approach, the owner ensures that the following keys steps are taken:



✓ **Make sure the alliance model has all the mandatory features of a “full-blown” alliance**

See the list of essential features in section 4.1. In many cases it may be better not to embark on an alliance at all than to implement a “half-baked” hybrid that lacks some of the features (eg. unanimous decision-making) that are essential for the alliance process to work as it should.

✓ **Select the “right” partner on the basis of a rigorous evaluation against appropriate criteria.**

See list of typical criteria in section 7.3 above.

Make sure to exchange an eye-to-eye commitment with a very senior executive (preferably the CEO) of each of the preferred Alliance Partners that promises given will be honoured.

✓ **Ensure that the compensation model is structured so that the commercial interests of all the Alliance Participants are aligned**

When tested against all possible outcomes the result for all participants must be either win:win or lose:lose.

✓ **Establish a solid relationship and maintain it vigorously**

This is probably the most important on-going management initiative – the relationship will not simply look after itself.

✓ **Put special emphasis on management of the design process**

Particular emphasis is needed on the interfaces between design / procurement / construction.

The author’s experience is that, as a general rule, construction personnel assume the alliance culture very quickly. It takes a more concerted effort to develop the same level of passion amongst design staff.

✓ **Ensure that all key stakeholders are committed to the achievement of the alliance objectives.**

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