Co-operative Project Delivery

*Geoff King**

SUMMARY

In recent years, industry has recognised that some form of co-operative arrangement between client and contractors offers a solution to the growing burden of disputes and budget overruns encountered in project completion.

A variety of co-operative mechanisms have been developed and applied to projects, and all such mechanisms have been described by terms such as partnering or alliancing, as if the mechanisms used were the same.

This paper attempts to demonstrate that particular features are required to make a co-operative delivery arrangement work to full effect, and the popular names for co-operative mechanisms are unhelpful because of the range of different mechanisms to which they have been applied.

The paper offers a specific term, "aligned objectives groups", to describe arrangements which align the business goals of client and service providers. Such "aligned objectives groups" utilise a formula of risk and reward to provide financial incentives to service providers within the group to share skills and complete the project in as short a time as possible and at or below the target price.

With minor modifications, the same principles and approach can be adapted to long-term expense projects, such as maintenance, which utilise multiple service providers.

INTRODUCTION

This paper follows from the joint paper by David Minns and Peter Campbell entitled "Alliancing: The East Spar and Wandoo Projects",[1] presented at the Annual State Conference of AMPLA (Western Australian Branch) on 18 October 1996. That paper sets out the mechanics and documentary underpinning of Ampolex's Wandoo Alliance and the East Spar Alliance. It provides insights into the formation and management of those alliances and should be compulsory reading for those responsible for the contracting strategies of client companies. It explains the nuts and bolts

* BA (NSW), LLB (ANU); Solicitor, New South Wales, Victoria and Australian Capital Territory; Director, Industrial Alliance Services Pty Ltd; formerly General Counsel, Ampolex Ltd.

[1] (1996) 15 AMPLA Bull 202.

of project delivery by means other than conventional hard money contracts, taken by two client companies in Australia. The approach taken in each case was as different as the projects undertaken and, on analysis, there were only two common threads: the use of the label "alliance" to describe the project delivery arrangement, and Ampolex's involvement in both developments. Ampolex played no part in shaping the East Spar Alliance.

My purpose is not to compare the approach to project delivery by either the Wandoo or East Spar "alliances", or to hold out either approach as being superior to the other. I also do not intend to make critical observations about the many "alliances" successfully or not so successfully used in projects throughout the world, or which are now in the process of development.

What follows is an attempt to provide some definitional basis to facilitate informed consideration of the whole topic of co-operative project delivery generally, particularly as it applied to Ampolex's Wandoo Development. I hasten to add that I do not seek to impose my definitions on anyone: I subscribe without qualification to the principle of free denotation. At least if I provide my own definitions, during consideration of the issue, there can be some common understanding of what is being examined, and what we meant by "alliance" in the Wandoo Project. I hope to provide insights into the theoretical foundations of the Wandoo Alliance, based on my involvement in its development and implementation.

The structure, described later, worked as intended at Wandoo, and allowed a project to go ahead that could not be done by conventional contracting because of the technical and commercial limitations inherent in hard money contracting when applied to marginal projects. David Minns looked at this issue in some detail.

In keeping with the fundamental principle of risk and reward, I acknowledge the contribution to this paper of Rick Wood, formerly General Manager, Production, of Ampolex and Chairman of the Wandoo Alliance, and the first person ever to utter the word "alliance" in my presence. Rick pushed the idea of an alliance as the way to optimise the value of the Wandoo reservoir and turn it into a valuable asset against considerable early opposition within Ampolex, mostly mine. I also acknowledge the commercial awareness, spirit of innovation and courage of the Ampolex board of 1994, which approved the implementation of an alliance in its purest form for the Wandoo Project. Its confidence at that time in such an arrangement has been vindicated by the success of the project commercially and technically.

"ALLIANCES" AND THE MANAGEMENT OF RISK

The concept of alliances seems to present greater difficulties for lawyers than for business people. It is a system of working based on trust and co-operation, which business people have devised in response to the needs of

business to increase returns and deal with the shortcomings of the conventional system of contracting. These innovations have generated scepticism among lawyers who find the changes to the client/contractor relationship present difficulties, particularly in relation to the management of risk and indemnification.

It has been said to me that alliances are fine while things go well, but they are insufficiently robust in structure to cope with major setbacks or significant physical losses. The Wandoo Alliance suffered a major problem very early in its work, when the casting basin bund wall collapsed, flooding the casting basin. The way in which the alliance dealt with this problem demonstrated its strength, not its weakness. The Wandoo Alliance responded to the bund wall collapse in a co-operative and constructive way so that only two weeks were lost in the schedule at little cost to the gainshare. A conventional arrangement undoubtedly would have generated an orgy of litigation with devastating effect on the project.

Any well-constructed alliance, in which the business goals of the participants are aligned, will have the capacity to cope with similar project disasters. Perhaps training in the principles of contract law make it difficult for lawyers to come to grips with a trust-based system of doing business, in which businesses are prepared to work together for greater gain and, in doing so, discard conventional thinking about contract risk and indemnity.

The reason for such a significant shift in the management of risks in alliances flows from the structure which eliminates the usual client/contractor dichotomy.

The ideal model of an alliance is a project organisation that combines in a single structure the skills of all necessary contractors for the work and the client. In such an arrangement, there is no single, identifiable corporation to carry the risk apart from the client. The alliance is the creature of the client, formed to serve the client's needs, staffed by the professionals best able to fill the jobs in the structure. There is no "us" and no "them" anymore. Any decision or action of the alliance will be a composite action performed by an amalgam of the representatives of all participants. This makes it impossible to sheet home liability to any one participant since professional contribution and responsibility is shared. In addition, the risk/reward formula effects a genuine sharing of project risk among the participants in accordance with the formula, all without blame or the need to identify the specific causes of such problems as may occur. The sharing of risk within an aligned interest group results from the relationships within the group and the acceptance by all participants of a share of the risk arising from any action of the other parties with whom they have elected to form the aligned group. This is significantly different from the usual liabilities set out in contracts that are based upon the law of tort, possibly modified to some extent.

"ALLIANCE": WHAT DOES IT MEAN?

"Alliance" as a term has been used to describe a range of relationships, including ill-defined co-operative relationships between companies, joint ventures between contractors to perform work under fairly standard contractual obligations and projects performed by groups of contractors with or without aligned objectives. It is also applied to virtual corporations, such as Wandoo, where the business objectives of all participants have been aligned by means of a carefully structured risk/reward equation.

Rather than perpetuate the current confusion that surrounds the term "alliance", I would happily abandon its further use for project delivery mechanisms such as Wandoo, where there has been alignment of business goals between all participants, including the client.

The risk/reward equation entitles each participant to share in the economic gains enjoyed by the client resulting from the alliance outperforming the targets set for the project. Conversely, each participant shares in the extent to which the performance of the alliance falls short of the targets. The sharing of the reward or the risk depends on the formula negotiated by the alliance.

Where contractors and the client have come together in a group and have agreed upon a compensation formula which incorporates elements of risk and reward based on performance against targets, it is more meaningful (and more cumbersome) to describe that arrangement as an "aligned objectives group". Such an arrangement is the most powerful variant of "alliance".

An aligned objectives group need not follow the pure Wandoo form to gain substantial benefits for the client and participants, although the full advantage is realisable only from the most complete alignment of business goals.

Project delivery arrangements can be seen in terms of a continuum, with conventional contracting at one extreme and a virtual corporation at the other. To the extent that any project delivery mechanism moves away from the conventional contracting arrangement along the continuum, that project can be assured of out-performing a contract undertaken under a conventional contract. The most completely integrated group has the capacity to deliver the most dramatic improvements in time to completion and cost.

Any project delivery mechanism that eliminates the compartments of specialisation and allows some degree of interaction between the various phases of the work and the participants will deliver advantages to the participants far in excess of a traditional hard money contract. The greater the extent of the integration and co-operation of technical and commercial functions and alignment of compensation, the greater the benefit to the participants.

One of the most significant features of the management of a pure alliance is the fact that the alliance board manages the project. The alliance

receives its instructions from the alliance board and the client input to the project is limited to budgetary approval at the outset and thereafter through its representatives on the alliance board.

PARTICIPANT SELECTION AND PROBITY

The process of participant selection represents the greatest practical shift from conventional tendering and contractual arrangements, and may present some problems of probity for companies and government instrumentalities alike.

It should first be noted that all potential participants in an aligned objectives group are subject to the same detailed screening of technical competence and financial capacity, as performed before potential contractors are added to lists of approved tenderers for conventional contracts.

The probity issue results from the fact that the process of participant selection takes into account softer issues, such as top down commitment to the principles of aligned objectives, rather than quasi-objective criteria, such as a bid price. It is easier for a contract administrator to point to price distinctions as the basis of selecting a contractor, rather than having to defend participant selection based on the seemingly more ephemeral criteria necessary to select a participant for an aligned objectives group. This problem has to be confronted and overcome wherever a client seeks to establish project delivery based on aligned objectives and achieve meaningful benefit.

Seeking tenders in a conventional sense means that the design basis of the project has been finalised prior to examination by the fabricator and this is inconsistent with the main objective, skill pooling, of an aligned objectives group. Further, if the work is to be done by schedule of rates, the bid will include profit in the hourly rates for personnel and equipment so that the contractor makes more profit for more hours worked. This encourages a contractor to maximise hours of work, which is the reverse of an aligned objectives group where the risk/reward formula delivers additional profit where the work is completed by fewer hours of personnel and equipment time.

The answer to the probity question flows from the aligned objectives structure. The aligned objectives group should be seen as an extension of the client organisation. All participants must bring their services at cost on an auditable open book basis, in return for a negotiated level of profit plus additional profit (or loss) under the risk/reward formula. This approach levels the financial distinction between potential participants of aligned groups and removes the imperative of cost as the means of assessing competing service providers. Assessments of competence and capacity to perform effectively within an aligned objectives group are set as the valid selection criteria.

Such an approach to selecting service providers only appears to be different from the tendering policies of clients for conventional contracts. Few clients base their selection of contractors on unweighted, raw money bids. The assessment of tenders for conventional contracts universally uses the tendered price as only one factor of comparison, with a broad range of subjective weighting criteria forming important parts of contractor selection.

The selection process for aligned objectives groups is not such a radical departure from current methods of selection. Clearly, the bid price is removed from the assessment criteria, but a bid price is generally sterilised in most bidding environments by weightings of subjective factors. As a result, there is no great loss of objectivity.

The process of participant selection must be detailed and painstaking. For Wandoo, we developed a detailed objective questionnaire, a system for weighting answers, and score sheets.

The process was not rushed and we sought to understand the philosophies of the various groups and encouraged them to understand the company approach. The assessment was essentially to answer the following questions: "Can we meet our business objectives working in an environment based on trust?" and "Are you prepared to share the risk for a share of the reward?"

At the core of the assessment was the commitment by the chief excutive officer of each participant to contribute to an alliance as a virtual corporation to which skills, equipment and resources would be provided on an open book, net cost basis. Profit was separately negotiated, as was the risk/reward equation.

We long-listed, short-listed and interviewed repeatedly before selecting the group preferred to form the alliance.

Some of the groups interviewed had a superficial understanding of the level of commitment we required and were not prepared to put all profit and overhead at risk but wished to maintain some unrisked profit. This position was unacceptable.

The successful group satisfied most completely our criteria. Several of the alternative groups, undoubtedly, could have formed an effective and successful alliance using the procedures we had developed.

THE WANDOO EXPERIENCE

The successful prospective alliance consisted of Dawson Engineering/Brown & Root Joint Venture (subsequently, Dawson Engineering became Brown & Root Engineering), Leighton Contractors Pty Ltd, Keppel FELS Pty Ltd and Ove Arup Pty Ltd. This alliance performed above and beyond our expectations from both a technical and relational standpoint. The alignment was initially brought about by the financial incentives. Later, the financial incentive became absorbed into the spirit of the alliance to succeed as a matter of pride.

After appointing the successful group to form the alliance, the process of negotiating the various agreements commenced and all participants were quick to recognise the need for flexibility, co-operation and trust. We emphasised from earliest contact with the prospective participants that the process was to be dealt with constructively as a business relationship and we discouraged in strong terms any party from taking a formal legalistic approach. Any prospective participant inclined to take a legalistic approach simply would have been replaced. The negotiations of the various documents had to proceed on the basis of trust and co-operation. The documents were to spell out the commercial relationship clearly but not dominate the workings of the alliance.

The negotiations provided the final reality check on the attitudes and commitment of the parties. The spirit of co-operation and the level of commitment that later marked the day-to-day working of the alliance began with the negotiation of the documents. The documents were settled quickly and in an amicable and co-operative environment by the in-house lawyers of the parties, from a variety of jurisdictions and a diversity of businesses.

After execution of the documents, it was agreed that the documents would be put away. There was only one occasion relating to treatment of foreign exchange when the alliance agreement was considered at board level, and the issue was resolved informally by consensus.

The day-to-day working of the alliance in its own offices in Perth was fascinating. Gradually the company affiliations of the staff became less distinct, and the employees of the various participants became totally comfortable in working in a system where their supervisors were drawn from other contractors. Ampolex employees filled genuine jobs and reported to a supervisor appointed from another participant. Their supervisors in the alliance structure completed the performance appraisals for the Ampolex employees in the alliance. The Project Manager was a Leightons employee. Every possible device was used to maximise the application of the expertise within the alliance, in the pursuit of a world class project at exceptionally low cost to be delivered in the shortest possible time. Exceptional performance by individuals was recognised and rewarded by the alliance.

The desire within the alliance to beat the various targets went well beyond the motivations and incentives of the risk/reward formula, although that formula is the cement of any aligned and co-operative project delivery mechanism.

The dynamics and drive of the alliance board and within the alliance office cannot adequately be described. Wandoo as a working aligned objectives group brought out the best in the participating organisations and the individuals.

The project undertaken by the Wandoo Alliance has now been successfully completed. Wandoo was a massive undertaking for the alliance, which sunk its concrete gravity structure safely and accurately in the sea off Western Australia, about the same time that a change of ownership of

Ampolex occurred. The new owners did not change the alliance or the way the work was being conducted and allowed the alliance to complete its work. The original team achieved the remaining major milestones of the project, installation of the deck and hook up, and the project was handed over to its new owners with no residual disputes or litigation.

Some form of contractual dispute would have been the normal expectation in a job of that size undertaken by conventional means by contractors engaged to do specific parts of the work and no more.

WHY AMPOLEX USED AN ALLIANCE

The discovery of the Wandoo field was the result of Ampolex farming in to permit WA 202p under a conventional arrangement under which it earned a participating interest for conducting exploration and drilling. The discovery of the Wandoo field was the result of that exploration. Subsequent to the discovery of Wandoo, Ampolex acquired the remaining interest in the field from the existing operator and, because I negotiated and documented that purchase, I developed and maintained a proprietary sense about Wandoo and took a great interest in what was planned for its development. My involvement was encouraged by Rick Wood, Ampolex's General Manager, Production, with whom I had worked on various Esso Bass Strait projects from the late 1970s.

Ampolex originally took a very conventional approach to the Wandoo development.

Up to the acquisition of Wandoo, Ampolex had operated onshore production in the United States and Queensland and held only minor interests in offshore developments. It previously had no need for a projects division as it had been a non-operator participant in its other major investments. When the Wandoo field was discovered/acquired, it did not have the means to manage the development.

A Projects Division was established and the vacancies were filled substantially by consultants and contractors recruited from around the world, all at considerable cost. Ampolex followed the tried and tested conventional thinking applied to the management of major development by oil companies (or any other companies for that matter), assuming that a company must have its own in-house resources to design, plan and manage a project, using contractors to perform specific and limited functions. Ampolex began to create a projects empire where previously none had existed, primarily because such an approach was thought to be the only way in which a development could be undertaken.

The new projects team started work to provide the infrastructure to allow Ampolex to solve the problems of producing the Wandoo reservoir. The stages in the process and the various technical objectives are described in David Minns' paper.

The Wandoo "A" monopod was installed and considerable production testing effort was used to gain greater insights into the difficult Wandoo reservoir. Concurrently, the project team began working on concepts for the full field development and, after almost 12 months' work and very considerable expenditure, reviews of the development options began at management level. The projects team consisted of a core of employees and a substantial number of highly experienced and competent oil industry consultants, many of whom had been involved in major worldwide oil industry developments.

Using available data, and taking account of the objectives of the company, the projects group examined in detail the 16 best available development concepts and recommended a proposal that involved the construction of a concrete gravity structure with an oil storage of about 500,000 barrels. The deck for the structure was to be a converted derrick barge that would be secured on top of the concrete storage tank. The derrick barge proposal, involving "old" steel, was thought to offer a less expensive solution to the development than a newly fabricated steel deck. The barge also offered an innovative solution by providing accommodation and deck space at conversion, rather than fabrication, cost.

The project team and the various consultants were working hard to make Wandoo full field development a viable project, taking full account of the Wandoo development economics. They were as innovative and creative as possible within the constraints of the conventions of the industry.

The team looked very closely at the alternative methods of development, including floating production storage, offloading vessels and steel-fixed platforms until settling on the preferred alternative of combining a concrete structure and a converted derrick barge.

After attending some of the reviews, it became clear that the project team, despite focusing on maximising value and a lateral approach to the development led by Ampolex's creative project manager, could not significantly reduce the development costs. The cost estimates were of concern when projected and escalated over the life of the project and when normal contingencies were applied. To optimise the project economics, a radically different approach was required. The development would have to be undertaken by some means other than hard money design, fabrication and installation. The costs were too high and the risks too great.

Ampolex management began the search for a new way of undertaking the project and of containing project costs. We began to look more seriously at alternatives and we began research in earnest. We reviewed a swag of literature on alliancing. The possibility that alliancing was a valid method of project delivery that could meet our technical and economic ambitions began to emerge and, with a rudimentary understanding of the subject, we started the process of developing a mechanism that could serve Ampolex's objectives. Simply stated, the business objectives were to take a valuable, albeit difficult, asset and maximise its rate of return for the benefit of the investors.

Rick Wood and I began work to develop a workable alliance mechanism for Wandoo. While our thinking was very unsophisticated, we concluded that an alliance could deliver the project at a cost that could give the return required and would be likely also to complete the project in a short project time.

We had a limited understanding of possible structures for an alliance, but we had a clear idea that we needed to integrate all necessary technical specialisations: design, fabrication and installation. As we now know, we chose for Wandoo the purest form of co-operative project delivery by selecting a "virtual corporation" structure. A "virtual corporation" is an organisation that is separate from the contributing contractors and from the client, with an independent management structure and board. The new "corporation" functions in a way indistinguishable from any other company with a single commercial purpose, and is independent in the manner with which it proceeds with the project execution. The client control of the project comes at board level only.

The final decision about the structure was delayed until a fact-finding tour of North Sea alliances had been completed and we were able to consider the information obtained.

A number of features were considered to be essential, whatever structure was employed. First, we considered it imperative to integrate the skill of all participants into a single entity, with the manning of the structure selected on the basis of the best person for the job available from any participating organisation. No positions were to be earmarked for nominees of the client, regardless of merit. The Ampolex employees in the alliance were appointed on the basis of their abilities to perform a genuine job for the project, and not just act as supervisors or overseers.

Secondly, we wanted full integration of all phases of the job. Experience of traditional contracting showed clearly that a segmented approach to a project, where a designer designs and then goes away and the fabricator and installer come along in succession with no interaction with the designer, was inefficient in terms of cost and utilisation of skills. It was seen as crucial to integrate the design with the work of the fabricators and the engineers to ensure that what was designed would be able to be built economically. There were many examples of designers designing in isolation and producing a design that could not be built for the desired cost.

Thirdly, the governing principle of the work was to be "fitness for purpose", abandoning the more usual oil industry propensity for over-engineering and lavish specifications not necessary for a safe and efficient development, which complied in all respects with relevant legislation.

The process of planning the creation of the alliance began, taking into account the comprehensive reservoir information available from the extensive production testing, crude quality and its marketing, and the substantial amount of high quality work done by the project team.

The work of the project team provided indicative project economics for the full field development if undertaken by conventional contracting. However, there was little support for the engineering solution for the

development put forward. The engineering proposal needed to be tested against the production needs for the full field development and against the other alternatives by fresh and independent eyes, and subject to independent costing, before a firm recommendation could be put to the Ampolex board. There was also a need to test the working environment dynamics of the alliance chosen. Both objectives would be satisfied by the creation of the alliance, on an interim basis initially, to study the parameters of the project and prepare an independent cost to provide the facilities to meet the production and marketing requirement of the full field development. The cost put forward by the interim alliance would, if it met the broad company economics, be negotiated into the target cost for the project.

A budget would be set for the work to be performed during the study phase, after which the decision to go on with the project or defer it could be made. At the end of the study phase, the interim alliance would provide a costing for the development concept it favoured. It would then be for Ampolex to consider the outcome of the work of the interim alliance. With board approval, the Interim Alliance Agreement could be renegotiated as the Alliance Agreement, under which the project work of the alliance could proceed.

David Minns explained the documents used for the Wandoo Alliance in some detail. There was a works contract between Ampolex and each of the participants, which amounted to a conventional contract for specified work to be done. The works contract was entirely unnecessary and evidences a lack of confidence, at the time, with the durability and capacities of a properly constructed aligned objectives group. The existence of the works contracts represents a stage of thinking which experience now shows to be unnecessary and quite contrary to the principles we sought to encourage. A properly formed aligned objectives group needs only an aligned objectives agreement, mutual trust, and the bond of the risk/reward formula.

The full field development of Wandoo could only have been successfully done by project delivery mechanism, which effectively aligned the business interests of the participants and provided financial incentives to the participants to deliver exceptional performance. The success of any aligned interest group depends on the risk/reward formula and the selection of participants capable of working in such a co-operative, integrated environment.

THE FUTURE

Undoubtedly, an increasing number of clients will elect to have projects undertaken by groups of contractors whose business objectives for the project have been aligned with those of the client. The demand by business for such forms of project delivery will increase until projects done by conventional hard money contracts become the exception. A properly

formed "alliance", where the interests of all parties are aligned by the risk/reward formula and participants have been painstakingly selected, cannot fail to reduce costs and time to completion by significant amounts.

Many government sector projects are now being undertaken by "alliances" in one form or another, and it is significant that an aligned objectives group is undertaking a hydrocarbon project far larger than Wandoo. While alliances have been used primarily to make marginal projects viable, business has realised that using an aligned objectives group on a robust project will furnish greater returns.

The trend is business driven and the dynamic flows from business objectives. The process can smother from being over-lawyered or over-documented. The process will succeed or fail at a relational level and will not work for a client determined to maintain traditional master/servant relations with the contractors. The client who is content to contribute at alliance board level and to rely on the management of the alliance by the alliance board will ensure the full co-operation of participants and integration of skills and enjoy the best success.

The aligned objectives group, once created, will be welded together by training and team-building, and will be sustained on the same basis. Any consultants used by a client to assist in the creation or documentation of an aligned objectives group need to be totally committed to the process. The best indication of such commitment is preparedness of all involved with the aligned objectives group to join all other participants in putting all of their profit and overhead at risk under the risk/reward formula, on an open book basis. This will ensure that all contributors to the project are bound, on a common basis, to its success.

Business will not be content with systems of project delivery that do not offer the efficiencies of an aligned objectives group and the resultant savings in time and money.