



# NAC Executive Insights

## Outcomes Based Project Contracting

### Key Points

- Outcomes based contracting strategies offer hope for delivery of large complex projects.
- A range of outcome-based strategies are available.
- Three core principles are outlined.
- Things to pay particular attention to are detailed.

### Introduction

The engineering and construction industry has always faced challenges on alignment of interests of multiple parties in project delivery. Among the challenges are risk allocation and risk/reward sharing. Traditional contract mechanisms are often focused on risk transfer, not always to the best party to mitigate risks, but often driven by lenders and financing arrangements. This situation is often exacerbated through multi-party contracting strategies which introduce new levels of delivery complexity and growing “white space” risks.

This Executive Insight looks at the utilization of “outcomes” aligned, shared incentive teams for the delivery of large complex projects.

Over the years this has been addressed through a number of effective alignment strategies and insights that should guide current contracting approaches for large capital projects.

This can be best illustrated through some examples.

### Example #1 – Aligned Incentives

In the late 1990’s a 15,500-mile nationwide telecom fiber optic network was rolled out. The program manager was responsible for acquisition and integration of owner provided equipment and the designing and building of the network within an accelerated time frame. The design engineer provided engineering services to the client’s program manager for the planning, design, and construction of the coast-to-coast network using “IP” Internet Protocol technology. The major elements of the services included environmental compliance/permitting, right-of-way identification and facility site acquisition, design of the running line and facilities sites, quality assurance, and program management support. Additional services included development and implementation of a project web site to manage the project, geographic information system support, surveying, mapping, and geotechnical and hydrogeological engineering.

The constructor was responsible for integration of the owner provided equipment into the overall facility to deliver a functioning network.

The owner wanted to ensure all parties were aligned for the benefit of the project. In order to achieve this each contract (designer and constructor) consisted of three parts. First a cost reimbursable portion which provided unit rates for items not readily quantified up front. Second, a fixed fee based on an estimated cost of services (design and construction respectively) which incorporated an agreed to level of cost contingency. This fixed fee would not change whether some, all or none of the cost contingency was used (profit unaffected). Third, an incentive component which was based on two considerations. These considerations included the portion of fixed fee put at risk and the aligning metrics to be used to determine the incentive amounts.

All parties agreed to placing 100% of the fixed fee at risk (this only occurred after the cost and fixed fee negotiations were complete) against three shared metrics that would provide a score of 0 – 100. The fixed fee amount was associated with a score of 50 and each party had the potential to lose all of their fixed fee or double it. The metrics for both the designer and constructor were the same, recognizing that one's performance directly affected the other.

Evidence that the approach worked is exemplified by the final score of 93!

## **Example #2 Sharing Contingency for Result**

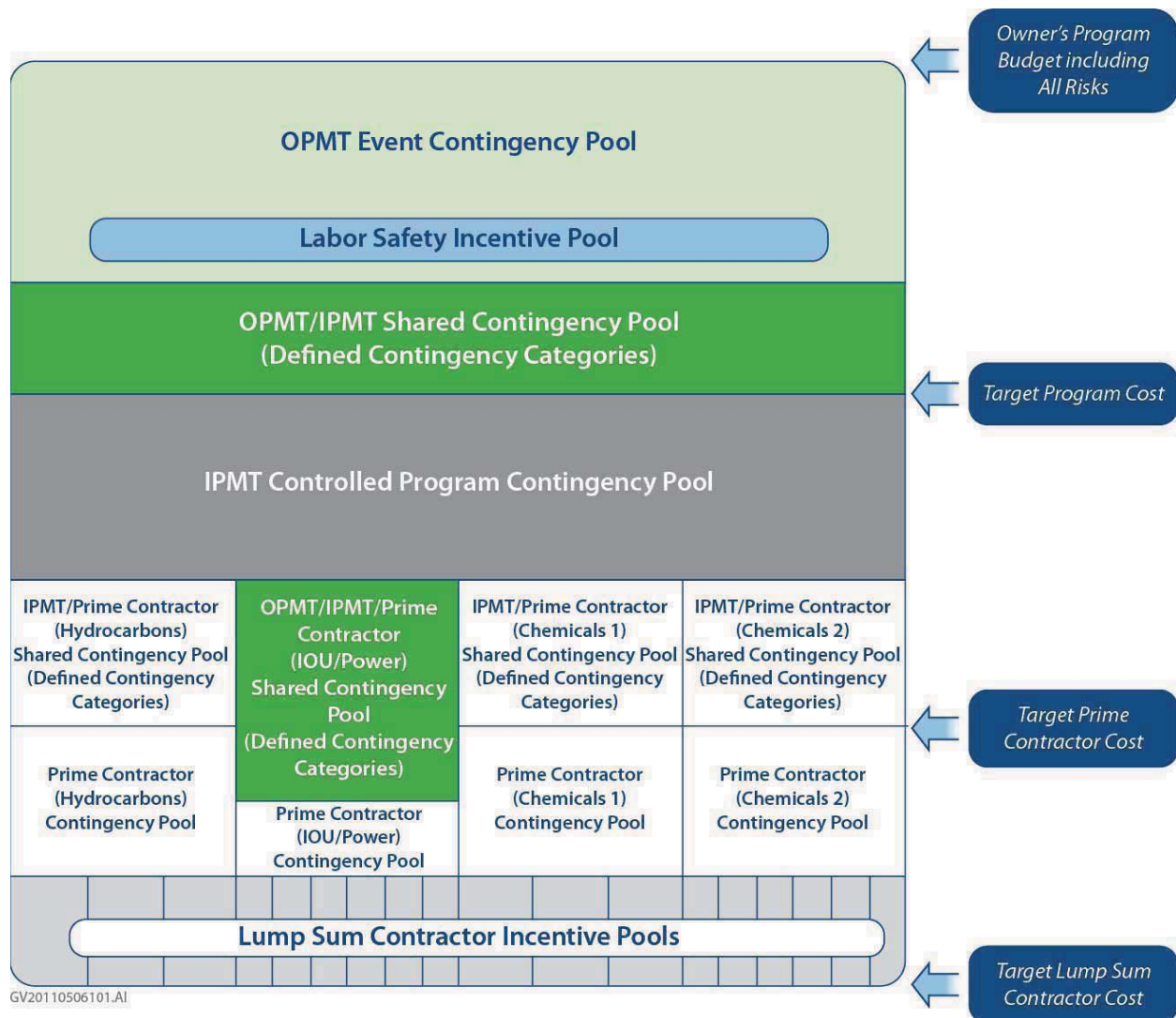
In one “giga” program development effort, a tiered shared contingency approach was developed that ensures that risks that do not squarely fit into one “box” for management by a single party but rather straddle two contracting levels or organizations are adequately managed for shared success.

The recommended commercial approach is based on:

- balance between risk and incentives
- shared approach to sharing of saved contingencies
- overlapping contingency pools between organizational levels to promote achievement of broader program objectives.
- multi-factor contingency pools to promote balanced achievement of program objectives

Simply put, the approach attempts to “fill in” much of the “white space” between boxes to ensure that the risks that lurk in between well-defined contract packages (and inherently are retained by the owner) are squeezed out to the extent possible.

“Giga” programs carry risks well beyond those encountered on mega programs because on the non-linear increase in scale and complexity risks. The tiered contingency pools provide for augmented risk management, recognize that a greater percentage of risks require the efforts of one or more parties and reduce the number of risks totally within the owner's purview, allowing appropriate risk management to be focused on the remaining retained risks.



**For Chart Above:**

- OPMT - Owner’s Project Management Team
- IPMT – Integrated Project Management Team
- IOU – Investor-Owned Utilities

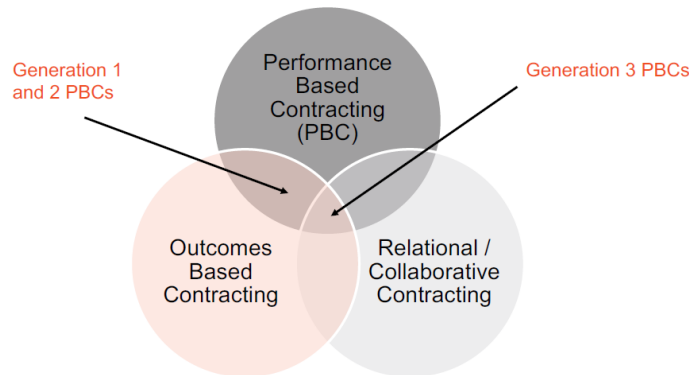
**Example #3 Alliance Based Contracts**

Alliance-based contracts got their start in the early 1990’s with a large oil & gas company efforts to improve the delivery of offshore oil and gas projects. Subsequently they have been used by a number of private sector global players finding their way into defense and other government agencies and ultimately into the infrastructure sector. This later usage has been primarily in the UK and Australia with growing interest in Canada. While there are many unique features of alliance-based contracts, a key feature is the shift from throughput-based profit making towards efficiency-based profit making.

Efforts in the Australian defense sector warrant special attention with use of a contracting model referred to as Generation 3 Performance Based Contracts (PBCs) (hybrid PBC or Outcomes-based) by the

Australian Department of Defense. These models included enterprise performance and behaviors in the performance management framework, more tightly linking to agency outcomes. Like all alliance contracts there is a strong-outcomes focus (not just outputs) and the importance of the relational importance in successful alliance contracts is more fully recognized.

### Generation 3 PBCs – Hybrid PBC, Outcomes Based and Relational / Collaborative Contracts



London used Integrated Project Insurance Programs for Heathrow Terminal 5 and Crossrail, while Australia employs alliance contracting — both of which have shown to reduce costs and delay.

One Australian example can be seen in Melbourne which like other local governments has adopted alliance contracting for many transportation capital projects. The core elements of alliance contracting are the collective assumption of risks by the alliance participants; best-for-project decision-making processes; a no fault–no blame culture; and a joint management structure.

Alliance contracts have been increasingly employed in Australia for smaller capital projects, such as bridge replacements and roadway repair, and have been used recently for rail projects. In 2013, a large contractor alliance completed an 8.5-mile rail line from Richland to Springfield, south of Brisbane. A single project team, the alliance was made up of staff from a rail company, engineering and design consultants, and construction firms, completing the project three weeks earlier than the original timeline. Overall cost savings were \$221 million, with \$171 million in savings from the alliance contract bid coming in below the Queensland government’s budget and an additional \$50 million saved during construction and design. The project’s full design was completed in less than a year and construction spanned two years. The combination of sharing project risks equally and the no fault-no blame culture among the alliance partners has resulted in few post-project damage claims or litigation.

### Things to Pay Attention To

Alliance arrangements have three core principles:

- All agreements are between two or more firms that make ongoing resource contributions to create joint value (including technology, staff, capital and equipment).

- All agreements are considered to be an “incomplete contract”, a phase that refers to an agreement in which the terms cannot be completely specified and agreed at the outset.
- All alliances share joint decision making to manage the business and share the value.

Alliance contracts have the potential of delivering many benefits but careful attention must be paid to their design, implementation, and oversight. In particular:

- Project characteristics must be appropriate for this delivery model and confirmed.
- Alliance elements carefully considered and reviewed for completeness (ensure that alliance partners can truly influence the outcomes).
- Delineation of the success factors ensuring that they are:
  - Linked to a well-articulated strategic outcome statement, that has been agreed to and is continuously communicated and reinforced not just by words, but also by actions.
  - That a vital few, outcome-oriented metrics have been chosen to measure alliance performance, recognizing that these may differ from traditional output measures.
- Ensuring that scope is well developed and bounded with a performance-based orientation and a comprehensive, expanded basis of design.
- Confirming the required behaviors for success are present and strengthening.
- Engaged executive leadership from all the alliance partners, acting unanimously on all key appointments and decisions.
- Independent advice to the executive leadership team acting to suggest and challenge as well as assess the effectiveness of this team.

## Summary

This Executive Insight looks at a few of the possible outcome alignment and incentive contracting approaches available. Other forms of outcome-based agreements are possible (Public Private Partnerships represent one example) and the use of outcomes-based contracting can be seen in many sectors (IT, health, various social services).

Alignment at the strategic business outcome level is essential for large complex project success.

Dispute resolution in Alliance contracts includes many of the same practices we see in other forms of contract (clear language, specific dispute resolution process and clauses, regular review and updating of the contract within the Alliance framework, planning to address challenges likely to arise). In addition, well developed contracts include provision for referring disputes to an independent expert or senior representatives of each alliance member.

## For Further Reading – Executive Insights

- White Space Risks

## About the Author

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries.

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