FIDIC Latin America Users' Conference

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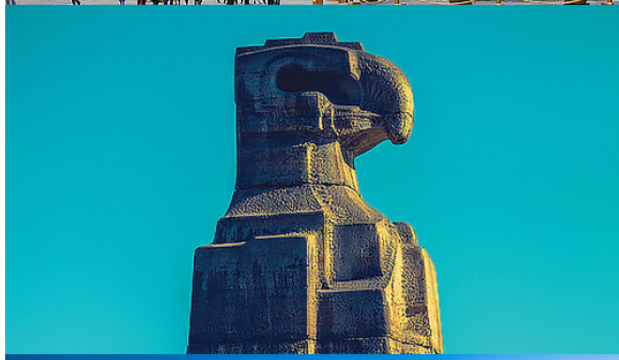
ADP Program Director (new Lima Airport)



ALERNATIVE PROCUREMENT
&
CONTRACTING
FOR
MEGA PROGRAMS

David Whyte
ADP Program Director (new Lima Airport)

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Presentation will cover

1. Megaprojects – characteristics
   - Key goals & objectives, supporting processes
   - The importance of people & Team Alignment
2. Contracting Methodologies – basic North American
   - Design-Bid-Build, Design-Build
3. Changes, initiatives (International, US, Canada)
4. Contracting Methodologies – alternatives, benefits
   - CMGC, Relationship Contracting, Alliancing
5. Mega Program Contracting Summary

Characteristics of Megaprojects (*)

Very big, their complexity increase exponentially with size, they span long time frames and are very visible politically with many stakeholders and are of interest to the media.

- Multiple stakeholders and interest groups
- Federal level involvement
- Extended schedule – multiple political cycles
- Complex and/or unusual in one, usually many, respects
- Multiple contractors/sub-contractors/suppliers
- Complex risk structure – interdependent risk events
- We need to "step up our game" for megaprojects
- We need different procedures than for routine projects

(*) See "Gigaprojects", ed. Galloway, Nielsen & Dignum

Delivery of Megaprojects (Issues)

Planning, management, design, contracting and construction of complex projects is difficult

- Many projects have had major problems
- Some reasons common to all locations
- Other reasons are specific to one location
- How to categorize the differences?

The Importance of People

Management is tasks

Management is structure

But, management is mostly about people.

- Every achievement is the achievement of a manager
- Every failure is the failure of a manager
- People manage rather than "forces" or "facts"
- The vision, dedication and integrity of managers determines whether there is (effective) management….

Megaprojects, fundamental requirements

We need to have the Public's understanding and acceptance of the project

– "buy-in", support, funding, resilience for problems, this relates to:

- **Political strategy** – stakeholders, key goals, public process, support
- **Funding** – approval, availability + stability (deal with political changes)
- **Ability to determine** a realistic budget and schedule (CEVP®)
- **Ability to meet** realistic budget and schedule (management tools)
- **Alignment** of Agency/designer/contractor
- Good **communication**, media

Relationships are critical(*)

Relationship

Increase use of Relationship Contracting Principles

Adversarial

- Alliancing
- Consensus Docs
- Build-Own-Operate-Transfer
- DB VfM - Partnering
- CM/GC
- Low-bid / Design–Build
- Low–bid / Design-Bid-Build

(*) From Henneveld, Western Australia Minister of Transport

Contracting Methodology

- The contracting method is a critical determinant
- We need to match the contracting process to the project and its environment (considering risk, applicable regulations, agency practice, experience and capability)
- Contracting procedures generally used in the NA:
  - Design-Bid-Build (DBB)
  - Design-Build (DB)
  - Public Private Partnerships (P3)
- Other contracting procedures being used/of interest:
  - Alternative Procurement Financing (APF) VfM Approach
  - General Contractor / Construction Manager (CM/GC)
  - Alliancing / Relationship / Consensus Contracting
- International applications (FIDIC, NCE-3c)

Comments on the "Low-Bid"

- "Low-bid" does not always result in the lowest cost for the public or private owner at the end of the day – or the best value
- The low-bid environment is characterized by the ability of each party to treat the other party as an adversary – for their gain at the potential expense of the other (*see Quick's paper*)
- Each party enters a contract at their own risk.
- To be "low bidder", the contractor must do at least two things:
  - Determine the lowest cost to deliver the work at minimum (required) quality.
  - Determine a strategy to bid that cost – or lower – in order to secure the work, with the expectation that deficiencies in price can be made up by claims and changes

Is a contract necessarily adversarial?

Introduction to Alliancing and Relationship Contracting

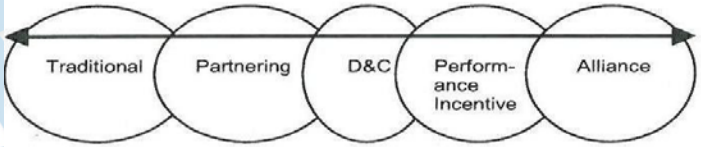
QLS/BAQ Symposium 2002 – Session K
Construction Law – 02 March 2002

Roger Quick
Partner
GADENS LAWYERS
BRISBANE*

Introduction

The words *Relationship Contracting* are used to describe delivery methods that concentrate on relationships between the parties to a construction contract as well as the project's requirements. i.e those methods which postulate that the task domain (the job) is as important as the relationship domain (how the job is to be done). Relationship contracting can cover various forms of construction contract. *Alliancing* is one of them. The following diagram indicates the various project delivery systems in current use. The complexity of management of the relationships increases from the traditional contract to the Alliance;

Figure 1: Degree of Complexity[1] →→→



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meant contractual relationships are inherently adversarial.

Relationship contracting encourages parties to move away from the confrontation and encourages them to work together to achieve outstanding outcomes.

Is a Contract Necessarily Adversarial?

A contract is a binding mutual promise or agreement by two or more parties, recognised by the law and enforceable before the courts.[2] The word *Contract* etymologically means a drawing together of persons. This suggests a relationship of good faith, fair dealing and reasonableness. However, the law of contract developed because of the explosion of commerce during the industrial revolution. Its basis is "freedom of contract". Contracts developed as a reflection of the *laissez-faire* economy, in a climate of high regard for liberty, morals and legal principle.[3] Commercial parties were the *"architects of their own destiny"*[4] and freely agreed to their rights, obligations and liabilities. Such a bargain was sacred, courts would not lightly interfere.[5] On the basis of principles such as freedom of contract and *caveat emptor*, the courts enforced a contract according to its terms, even if those terms were unfair or oppressive or caused severe hardship to a party.[6]

This historical development of the law of contract necessarily resulted in parties to contracts being able to treat another party as an adversary. Because of the strict enforcement of the contract's terms, a party could assume he or she was able to further his or her own interests at the expense of the other.[7] A party entered a contract at their own risk and contracted to protect his or her interests because the law offered limited protection of those

Contractual Challenges

- **In DBB and DB, potential conflicts exacerbated by:**
  - Interpretation of the contract – i.e. how are terms interpreted – do they mean that the owner (or the contractor) must bear a certain risk? How is that known during the bidding phase? And therefore how could it be clearly priced?
  - How do contract terms deal with an event or consequence which has arisen from performance of the agency or contractor? Who is responsible for a breach of those terms? What did the parties really agree to – and how can this be priced or resolved in a construction dispute?
  - How to treat risk events under the terms of the contract – i.e. who has agreed to bear those significant (but usually unknown) risks? How can this be anticipated? How can this be estimated?

Design Bid Build vs Design Build

- Design-Bid-Build (DBB) has been the traditional Contracting method for North American infrastructure contracts.
  - A basic approach, used where there is clarity of deliverable with low probability of major risk and/or changed conditions.
- Design-build (DB), including Design-Build-Operate-Maintain (DBOM) and other similar methods are gaining momentum. Indications of advantages:
  - Schedule compression - more reliable, faster than DBB [1]
  - Fewer changes and less cost growth [2]
  - More innovation potential by design-builder
  - More risk transfer to design-builder (LA)

[1] UK Reading study, [2] CII. Penn State study

Design-Bid-Build Concerns

- Time consuming - 100% design before construction
- Potential for changes in construction (bid pressures)
- Design typically performed without contractor's input
- Opportunity lost for contractor to add value.
- Contractor's lack of involvement can contribute to a subsequent adversarial environment
- In DBB, as in DB, there is an inherent conflict embodied in contractual provisions uncertainties

(Contract provisions & interpretations, cf. *Quick's* paper)

Design-Build Comments

- Not all early DB projects have been successful :
  NJT - 2 projects, Tren Urbano, Route 3 Boston…..
  - but we're getting better
- Difficulty estimating the final cost prior to inviting proposals.
  – DB commitment made when design is ~30% complete.
- DB contractor will build only what is required
  - not necessarily what is desired by the Agency.
- So, with DB, if the contract documents do not specifically require it, it will probably not get done.

International Initiatives

- In the late 1980s, many countries made significant changes to contracting methods for infrastructure projects
- "Alternative" methodologies became primary methodologies
- In particular UK, European, Australian and by the late 90s Canadian agencies appeared to be better at exploiting efficiencies & resources of the private sector by:
  - innovative financing,
  - alternative contracting techniques,
  - design-build,
  - concessions,
  - performance contracting and active asset management.
- These methods generally involved using a framework or team approach - working to establish an atmosphere of trust leading to innovation, added value, better risk allocation

Owner Needs & Requirements

- It is important for the owner to be clear about what he needs, when he needs it, and how much budget he has to run, operate and maintain the project.
- Once this basis is clear, it is possible to address and understand the needs and risks involved in executing a project.
- The analysis of these risks and their allocation allows the owner to choose the project delivery system, procurement management and contracting methodology for the project.
- Depending on the size and complexity of projects, the Project Delivery System and contractual forms can be produced as an bespoke Project Agreement utilizing such formats as FIDIC for its terms and conditions.
- This is where a creative team effort can generate documents like the newLim Airport Project Agreement.

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Construction and Operational Readiness of the New Lima International Airport "Jorge Chávez" "newLIM Project"

"Terms and Conditions Development Presentation Legal Advisor"

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PROJECT DELIVERY SYSTEM: DESIGN BUILD (EPC)

Inspired in FIDIC Silver book risk assignment

FIT FOR PURPOSE

(ER)

OPEX **REPEX**

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FIDIC INSPIRED vs FIDIC

"FIDIC INSPIRED"

CONTRACT AGREEMENT

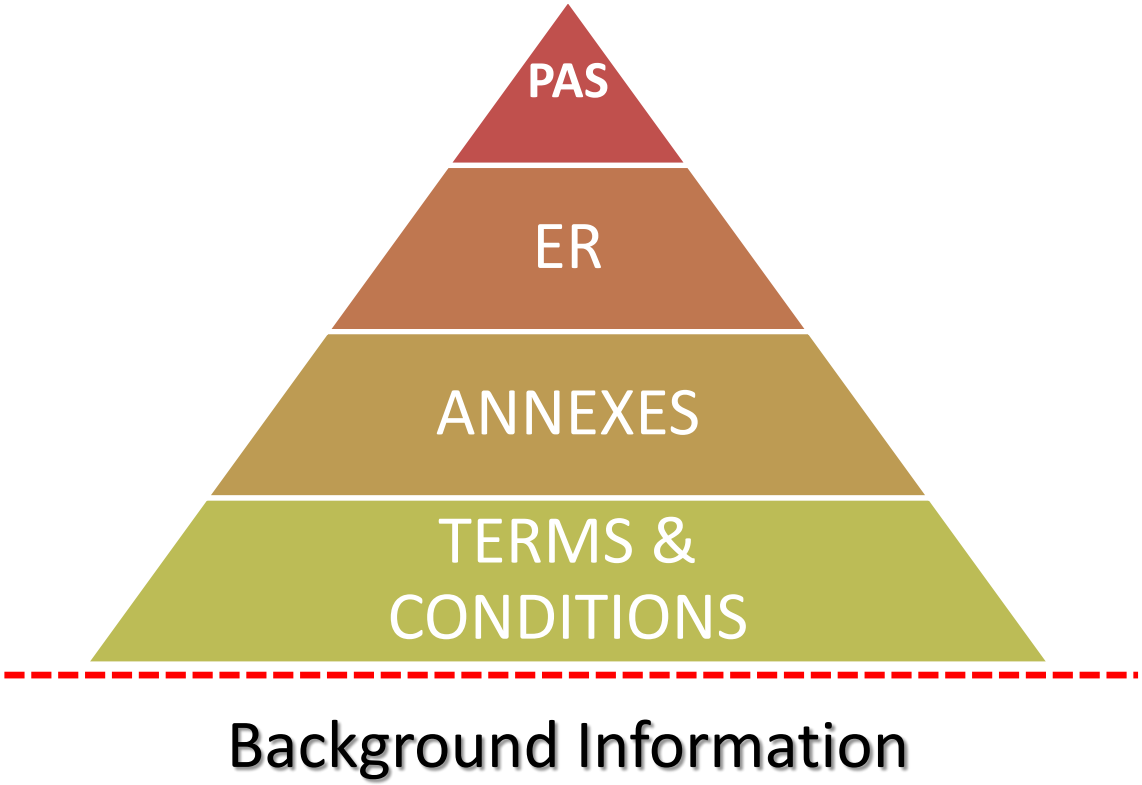
- ANNEXES
  40+?
  1st. precedence
- CONDITIONS
  (combined general & particular)
  2nd precedence
- EXTRACTS FROM PROPOSAL
  (if required)
  3rd precedence

FIDIC

CONTRACT AGREEMENT

- ANNEXES
  40+?
  1st. precedence
- Particular Conditions
  2nd precedence
  e.g. 2.1 delete … to replace with …
- General Conditions
  3rd precedence
- EXTRACTS FROM PROPOSAL
  (if required)
  4th precedence

Suite of documents – Clause 1



The T&C are complementary to the suite of documents that are part of the Project Agreement.

Mega Program Contracting Summary

- In North America, particularly in Canada, as elsewhere globally there has been a strong shift to embrace the Public Private Partnerships (P3) and/or various forms of EPC Turnkey, often with a VfM (Infra Ontario) approach for the delivery of large infrastructure programs.
- Owners are wanting certainty of time and cost, as well as the transfer of appropriate risks.
- However, to be successful in the EPC Turnkey approach, the owner must spend the time and effort up front in order to get the Requirements and Output Specifications right.
- After award, the owner requires a more sophisticated client´s team approach to manage the program, which does include partnering skill sets
- Requirement Management and a strong Quality Management System are the means by which to manage the program without interfering with the Design Build of the EPC Contractor.

Q & A

Special thanks to:

- John Reilly (John Reilly International)
- Jamie Gray (NPG – newLIM Legal Advisors)
- Elisa Figueroa (NPG – newLIM Legal Advisors)
- Guillermo Alarcon (NPG – newLIM Legal Advisors)

Key References

1. Drucker, "Management", Harper Row, New York, 1973
2. Flyvbjerg, B., Holm, M.S., and Buhl, S. 2002, "Underestimating Costs in Public Works Projects: Error or Lie?" Journal of the American Planning Association, Summer, 2002. Vol. 68, Issue 3; pg. 279 – 296.
3. Egan, J 1998, 'Rethinking Construction', Report of the Construction Task Force to the Deputy Prime Minister on improving the Quality and Efficiency of UK Construction.
4. Galloway, P, Nielsen, K & Dignum, J. "Managing GIGA Projects", ASCE Press, 2012.
5. Hatem, D J et. al. "Megaprojects and Recommended Practices", ACEC Press, 2010
6. Reilly, J J 2000c 'Tying it together – Policy, Management, Contracting and Risk – an Overview, Proc. North American Tunneling Conference 2000, Boston, June, pp 159-168
7. Flyvbjerg, B., Holm, M.S., and Buhl, S. 2002, "Underestimating Costs in Public Works Projects: Error or Lie?" Journal of the American Planning Association, Summer, 2002. Vol. 68, Issue 3; pg. 279 – 296.
8. Reilly, J.J 2004c w. McBride, M, Sangrey, D, MacDonald, D & Brown, J. "The development OF CEVP® - WSDOT's Cost-Risk Estimating Process" Proceedings, Boston Society of Civil Engineers, Fall/Winter 2004
9. Reilly, J.J & Parker, H., 2007c, "Benefits and Life-Cycle costs of Underground Facilities", Proc. World Tunnelling Conference, Prague, May
10. WSDOT, 2008 "Study of Alternative Contracting and Project Management Authorities", Published WSDOT (Hammond & Dyer), Authored by Reilly J.J. & Smith, R. October.
11. Reilly, J.J 2008d, "Alternative Contracting Methods – Part II", Proc. North American Tunneling Conference 08, San Francisco, June
12. Nielsen, B., McCormick, P., Abbott, E. & Bambridge, C. "Contracting for the SR 99 Bored Tunnel, Seattle, Washington" Proc RETC 2011
13. Reilly, J.J., Laird, L., Sangrey, D. & Gabel, M. 2011a "Use of Probalistic Cost Estimating CEVP® in the management of Complex Projects to Defined Budgets" International Tunnelling Association Conference, Helsinki, May.

David Whyte

Over 35 years of service in the fields of general contracting, construction management, mega project / program management and land development projects in Canada, USA, Middle East and now Peru.

Knowledge numerous alternative contracting procedures to match the client's strategic business objectives, specific project / programs and their environment (e.g. risk, regulations, agency practice). The range of contracting includes, but is not limited to:

- EPC / EPCM
- Design-Bid-Build (DBB)
- Design-Build (DB)
- Construction Manager / General Contractor (CM/GC)
- Framework Contracts
- Public Private Partnerships (P3)

Held such senior level positions as Construction Manager, Project / Program Manager, Vice President and Managing Director on diverse mega-projects that include, the $1.25 Billion Burg Al Arab and Jumeriah Resort Development, the $1 Billion Fallsview Casino and Resort, the $650 Million MFN fiber optic, data/exchange and telecomm program located in Dallas, Atlanta, Maryland, New York and elsewhere; the $800 Million Southern New Jersey Light Rail Project (SNJLR), the $600 Million Venue Development for the Vancouver Olympics and the $17 Billion revitalization of the Toronto Waterfront and VP Projects for Meraas Development Limited which was mandated to oversee and lead an estimated $ 95 Billion revitalization program located within the city of Dubai. Currently LAP / ADP Program Director for the new Lima Airport.

John Reilly

John Reilly International,
Framingham, Massachusetts

- Past President, American Underground Construction Assoc.
- Previously Chair of 2 ITA Working Groups (13 and 20)
- U.C. Berkeley M.Sc.; University of Sydney B.E. (Hons).
- 50 years experience in the management of complex, highway, transit and transportation programs involving earth and rock tunnels, underground stations, bridges, buildings, historic structures.
- Contracting and delivery methods using design-bid-build, design-build, CMGC and, in the future, alliancing.
- Management of cost and risk, development of WSDOT's Cost Estimate Validation process (CEVP®), book chapters / publications
- Partnering & Team-Alignment implementation.
- Initiation, management and member of high-level Expert Panels
- Author of over 75 papers & presentations.
- Your friend and advocate……..

NPG

- Jamie Gray

- Elisa Figueroa

- Guillermo Alarcon