

Design-Build /EPC Contracts

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**Helmut Johannsen, P.Eng., C.Arb., FCI Arb.
Associate Counsel, Singleton Urquhart LLP
hjohannsen@singleton.com
604-673-7431**

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Overview

- General Discussion of Design-Build Model
- Specific Design-Build / EPC Issues

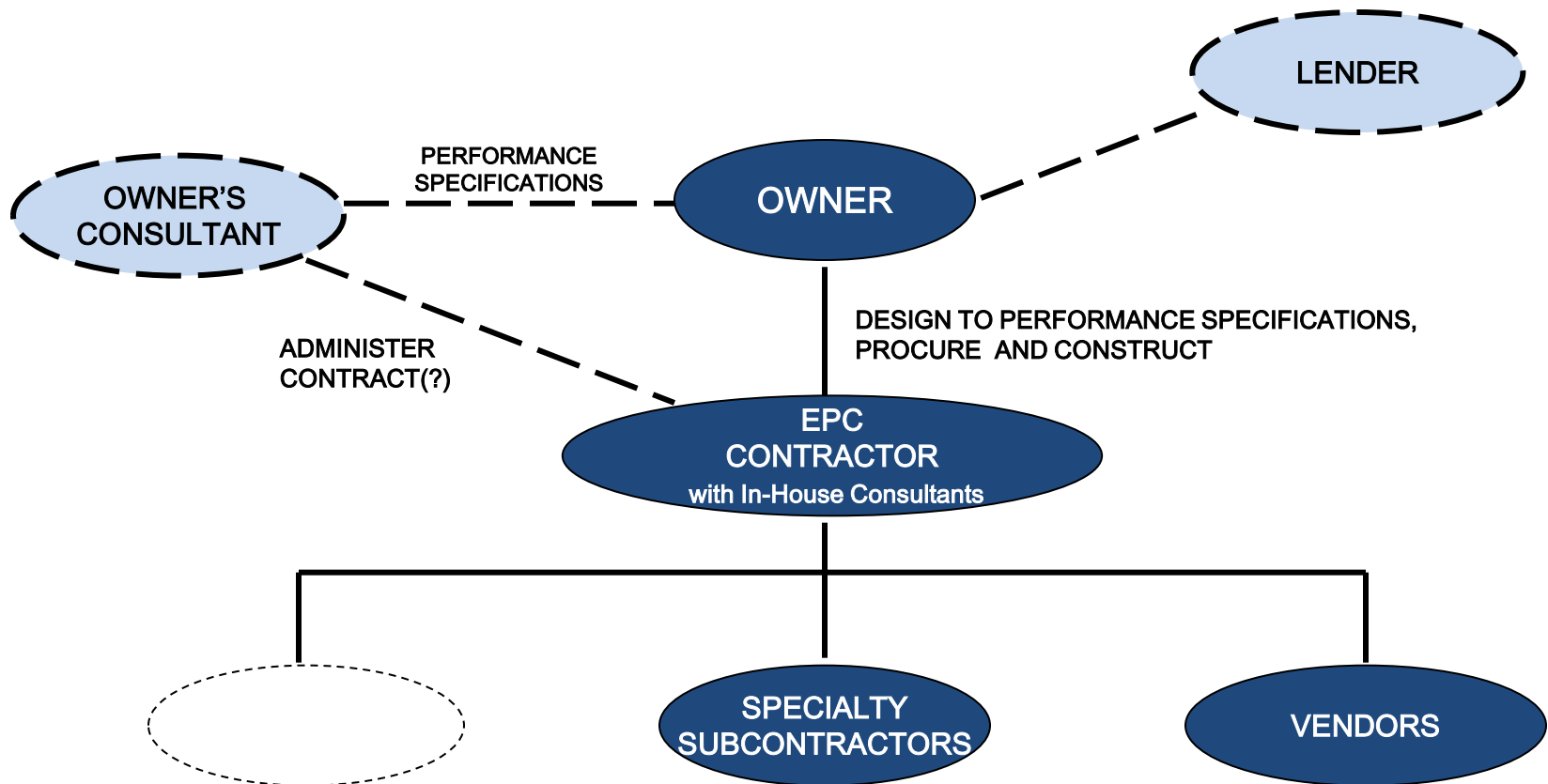
Design-Build / EPC Model

Design-Build / EPC Model

- Owner contracts with D-B Contractor to design and construct a project
- Owner's Statement of Requirements/Performance Specification/Output Specification can be prepared by Owner, Owner's Consultant or D-B Contractor
- Owner or Owner's Consultant administers contract
- D-B Contractor is responsible for:
 - Design, preparation of detailed technical specifications and drawings, procurement, construction, testing, commissioning
 - Meeting Owner's Requirements

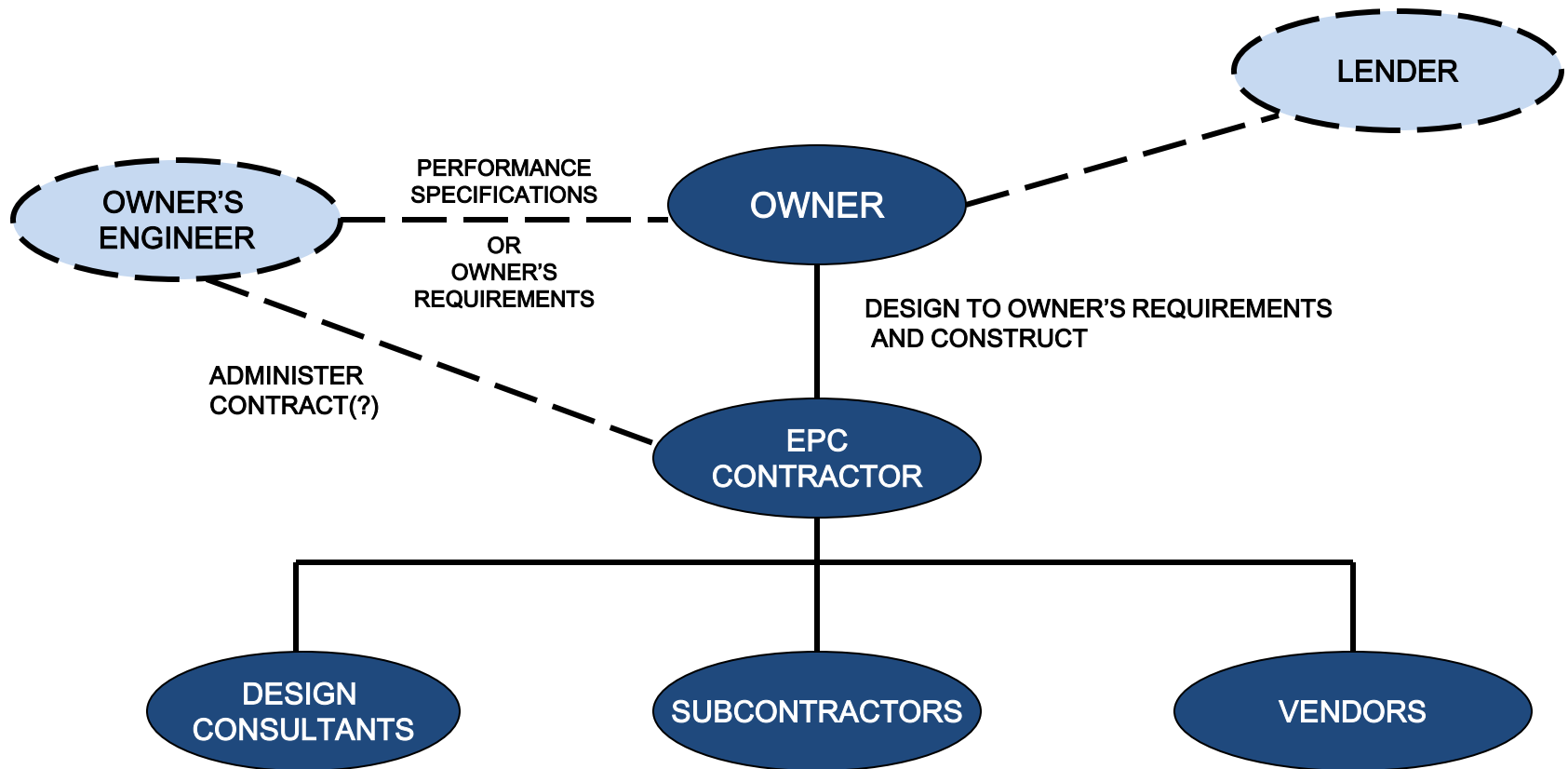
Design-Build / EPC Model (cont'd)

Integrated Design-Builder



Design-Build / EPC Model (cont'd)

Non-Integrated Design-Builder



Design-Build / EPC Model (cont'd)

- If both integrated and non-integrated Design-Builder will submit proposals, this must be taken into account from the outset of the procurement process.
 - Can impact questions to ask in RFQ process
 - Can impact allocation of risk, caps and liabilities under the contract
 - Can impact remedies available to Owner for default, particularly Owner's ability to obtain access to the design documents required to complete the project

Design-Build / EPC Model (cont'd)

- Risk tolerance of design-builder dependent on risk tolerance of:
 - Design consultants
 - Subcontractors
 - Equipment supplier
- Owner and design-build contract must recognize existence of contractual flow-down of risks and liabilities
 - Impacts contingencies and contract price
 - Impacts decision whether to submit a proposal

Design-Build / EPC Model (cont'd)

Some Advantages

- **Single point responsibility**
- Opportunity for innovation and faster project delivery
- Efficiency (design & construction expertise together)
- Fitness for purpose
- No real alternative for proprietary technology
- Fewer changes and implementation simplified
- Often reduction of claims (or number of claims)
- Increased flexibility to address changed conditions
- Reduced administrative burden for owner
- Cost savings and more certainty of final price
- Improved risk management for owner
- Greater ability to evaluate contractors on factors other than cost

Design-Build / EPC Model (cont'd)

Some Disadvantages

- Loss of control and reduced owner involvement in design
- Cost of tendering (to all parties)
- Difficulty/time comparing different designs
- Cost of risks and contingencies
- Danger of Design-Build becoming Build-Design
- Environmental/regulatory processes
- Limited pool of qualified Design-Builders
- QA/QC largely in contractor's hands
- Disputes tend to be larger and more complex
- Management of long term risks
- Some lack of project definition prior to contract award
- Consequences of default more drastic than for D-B-B

Design-Build / EPC Model (cont'd)

Selection of Design-Build

- Design-Build is always an option, but in deciding whether to go with Design-Build have to consider factors such as:
 - Extent to which perceived advantages outweigh disadvantages
 - Profitability of project
 - Risk tolerance of Owner
 - Resources of Owner
 - Pool of available design-build teams
 - Source and type of funding/financing
 - Schedule

Some Risk Mitigation Owners Often Use in D-B Contracts

- Clear performance specifications and milestone dates
- Clear, enforceable performance guarantees
- Fixed price with unit prices for specific risks (e.g. additional rock bolts)
- LDs for delay and failure to meet performance and availability guarantees
- Extensive ability to inspect, test and reject
- Extended warranties and liability for latent defects beyond those available under Design-Bid-Build
- Contract change provisions that require strict notice procedures and attempt to define Owner's view of "reasonable" schedule extensions and compensation

Some Risk Mitigation DB Contractors Often Request in D-B Contracts

- Force majeure provisions providing extension of time and, preferably, compensation
- Change provisions providing both compensation and time for delay or disruption beyond contractor's control
- Short time for payment and for Owner review of submittals
- Caps on liability and overall cap
- Exclusive warranties and remedies clause
- Exclusion of consequential damages
- Termination clause for owner default or extended force majeure
- Achievable contract schedule and performance guarantees

Design-Build / EPC Issues

Procurement Process

- Mitigating future disputes starts with design of procurement process
 - Risk register
 - Market sounding
 - Well drafted Performance / Output Specifications, integrated with commercial and legal parts of Contract
 - Consideration of means to mitigate subsurface risks for both parties
 - Consideration of extent to which rigorous design review process required
 - Consideration of peer review/technical panels to mitigate disputes and provide cost-efficient mitigation against design errors

Procurement Process (cont'd)

- **Transparency**

- D-B procurement often considers factors other than price
- Concerns often expressed over use of undisclosed criteria, preferences and favoritism that are open to abuse and even possible corruption.
- Process / Fairness monitor
- Disclosure of scoring matrix
 - Combining technical and financial scoring?
- Ensuring conforming proposals – competition agreements
- Controlling negotiation process

Procurement Process (cont'd)

- **Risk Register:**

- Proactive management tool for managing risks that includes:
 - Risk identification/description (by category)
 - Risk analysis - probability & consequence of occurrence
 - Estimated Exposure (range of values & most likely value)
 - Party to whom risk allocated & individual managing that risk
 - Potential measures to mitigate and manage risk
 - Monitoring (Trending & Updating)
- Should be developed before RFP issued and updated throughout process and contract
- Without a risk register, how can lawyers ensure risks adequately dealt with in RFP and in contract?

Procurement Process (cont'd)

- **Industrial v commercial/residential projects**
 - Environmental, regulatory and political considerations
 - Use of “Base Concept”
 - Responsibility for Owner’s preliminary design
- **Conforming terminology**
 - “commissioning”, “dry commissioning”, “wet commissioning”, “mechanical completion”, “substantial completion”, etc.
 - Sequence? Multi-train project?
- **Statement of Owner’s Requirements**
 - Black box? Detailed specification? Hybrid?

Base Concept/Schematic Design

- “Base Concept” generally consists of Schematic Design prepared by Owner
- Two primary advantages:
 - For industrial projects, facilitates environmental review process
 - For all projects, facilitates:
 - Proponents’ understanding of Performance Specifications and Owner’s general expectations
 - Public consultations
- Potential disadvantage:
 - May limit innovation
 - Cost and may result in delays to produce base concept

Adoption of Owner's Detailed Design

- Rather than “Base Concept” for Schematic Design prepared by Owner, D-B Contracts sometimes try to force D-B Contractor to use detailed design prepared by Owner's Consultant
- Primary advantages:
 - Perception Owner doesn't pay twice for the design
 - Ensures Owner receives what it is expecting
- Potential disadvantage:
 - Limits innovation
 - Significant D-B Contractor resistance to accept design liability
 - Owner may retain liability for unsuitability of design

Adoption of Owner's Detailed Design (cont'd)

- **Issue:** How developed is the design when the contractor is engaged?
 - Many contractors say 80%+
 - Not much (if any) design freedom left
- **Issue:** Is design so advanced that contract is not design-build but in essence:
 - Detail and Build, or
 - Document and Build
- **Issue:** Will Owner allow D-B Contractor to sue Owner's consultant in negligence for errors and omissions in design?

Role of Owner's Consultant

- No Owner's Consultant (Architect/Engineer) in some D-B contracts
 - E.g. FIDIC Silver Book
- Owner's Consultant in other contracts
 - FIDIC Orange Book (role similar to Red Book)
 - New CCDC 14 (2013) "Owner's Advisor"
 - Many custom forms
- Is/should there be a role for an Owner's Consultant (Architect and/or Engineer)?
 - Prior to obtaining proposals from D-B Contractor?
 - After D-B Contract executed?

Role of Owner's Consultant (cont'd)

- Recommend Owner's Consultant, not consultants ultimately used by D-B Contractor, should normally be responsible for developing Performance Specifications
 - Owner's that rely on D-B Contractor to develop Performance Specifications for Owner inadvertently transfer substantial risk back to the Owner
- Owner's Consultant can be Owner's in-house technical personnel and/or an independent consultant
- Role and responsibilities may vary, depending on complexity of project and inherent project risks

Role of Owner's Consultant (cont'd)

- During performance of D-B contract, Owner's Consultant can help identify gaps or problems in design
 - This role is critical if D-B Contractor provides limited warranties of short duration but completed facility has a long life
- Owner's Consultant is essential to protect Owner if D-B Contractor's consultant is on a fixed price with limited scope, does not provide field services, or doesn't fully take into account future life-cycle issues.

Role of Owner's Consultant (cont'd)

- Consultants often engaged early, but may not have specific experience in drafting performance based specifications/Statements of Owner's Requirements
- Terms of retainer
 - Often lightweight
 - Often no provision for novation to D-B Contractor, in situations where Owner wants D-B Contractor to “take over” the design and the Owner's Consultants.

Performance Guarantees

- Heart of a design-build contract for industrial contracts
 - Often poorly drafted, especially for industrial contracts/processes
- Close collaboration may be required between lawyers and consultants
 - Consultants prepare initial draft(s)
 - Lawyers review for enforceability in arbitral or judicial proceedings
- Enforceability is dependent on quality and completeness of drafting of Performance Guarantees

Performance Guarantees (cont'd)

- **Key questions:**
 - What is guaranteed?
 - On what is guarantee dependent?
- **Parties must focus on both inputs and outputs**
 - If inputs not to spec, are outputs really guaranteed?
- **Two levels of Performance Guarantees**
 - Performance guarantees for facility as a whole
 - Performance guarantees for individual components, equipment, subsystems and systems
 - Keep the distinction clear throughout the documents!

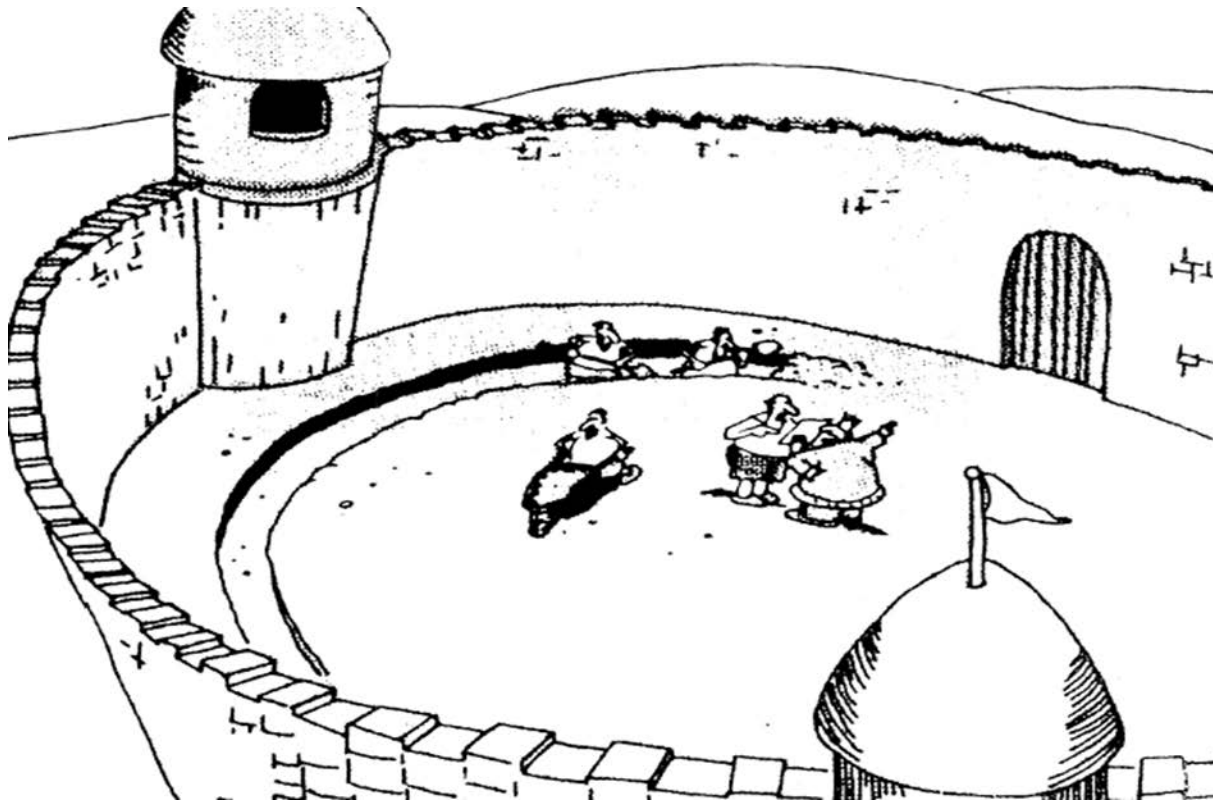
Performance Guarantees (cont'd)

- Performance tests are used to determine whether the Performance Guarantees are met.
- **Questions:**
 - Who develops the performance tests? When?
 - Does other party have opportunity to review and comment?
 - Resolution of disputes over performance tests?
 - When are tests performed? Who schedules them?
 - Who performs tests?
 - Clarify and confirm role of Owner's personnel & contractor's personnel
 - How are measurements taken? Frequency? Number? Use average of all or discard highest and lowest?
 - Consequences if tests stopped or failed?
 - Due to shortages/problems attributed to Owner
 - Due to deficiencies/problems in equipment?

Performance Guarantees (cont'd)

- LDs as a buy down for failure to achieve Performance Guarantees
- LDs are not always an adequate remedy if there is a fundamental failure of performance that goes to heart of the contract
- Alternative approach:
 - D-B Contractor must complete project to achieve a minimum level of performance (“Threshold Performance Level”)
 - No limit of liability (or liability limited to Contract Price) to achieve the Threshold Performance Level
 - LDs can only buy-down failure to achieve Performance Guarantees once all Threshold Performance Levels met

Statement of Owner's Requirements vs. Detailed Specifications



Suddenly a heated exchange took place during the Owner's first site visit when he realized his perfect design-build moat specification never identified the purpose....

Statement of Owner's Requirements

- D-B Contracts are performance based contracts
- Statement of Owner's Requirements can vary from statement of outcome required (“black box”), to performance based specification, to detailed specification, **or any combination thereof.**
- Name can vary:
 - Owner's Statement of Requirements
 - Employer's Requirements
 - Performance Specifications
 - Output Specifications
 - Functional Specifications

Statement of Owner's Requirements (cont'd)

- Performance Specifications should be focussed on performance, result or output rather than on detailed design or technical specifications
 - Creation of the detailed design or technical specifications is responsibility of the successful proponent, and often required as submittals under the Contract.

Statement of Owner's Requirements (cont'd)

- Consequences of failure to meet performance requirements must be addressed
- Need to address and clarify performance requirements, characteristics and expectations of:
 - Completed facility
 - Civil, mechanical and electrical parts of facility
 - Systems and sub-systems
- Clarity and consistency in Performance Specifications later facilitates timely review of design submittals from D-B Contractor during design review/submittal process

Statement of Owner's Requirements (cont'd)

- Often poorly drafted and fail to focus on “Big Picture”
- Each section should include, in order:
 - Statement of purpose/objectives to be met
 - Performance measures and/or tests or other requirements that will demonstrate performance requirements are met
 - Detailed specs but only where something truly is critical to Owner
 - E.g. specifying stainless steel for particular embedded parts rather than allow carbon steel to be used for that application
- Detailed specifications can undermine performance specifications and enforceability of performance guarantees

Statement of Owner's Requirements (cont'd)

- **Level of detail in Performance Specifications**
 - **Balancing Act**
 - Minimal amount to protect Owner vs. flexibility to D-B Contractor and innovation
 - **Beware of specifications that are too detailed and specific**
 - E.g. Specify overhead crane by function rather than by minimum and maximum hook elevations if floor and roof elevations not specified
 - Specifications must not conflict with Performance Requirements and Performance Guarantees or they prevent D-B Contractor from meeting them
 - Contract should address who is responsible in such case

Statement of Owner's Requirements (cont'd)

• Practice Tips:

- Drafting Performance/Output Specifications requires a joint effort from several individuals, often from different firms
- Consultants may be experienced in preparing detailed design or technical specifications, but must have experience with drafting performance based specifications
- An initial “drafting workshop” facilitated by someone experienced in drafting performance specifications can be very helpful
- Frequent team consultation meetings required to ensure internal consistency of and between:
 - Concepts, style and terminology
 - Performance/Output Specifications, Performance Guarantees and Agreement/General Conditions of the D-B Contract.

Statement of Owner's Requirements (cont'd)

- **Practice Tips (cont'd):**

- **Prior to issuing Performance/Output Specifications to proponents, one knowledgeable person should be responsible for reading the whole Performance/Output Specifications to ensure:**

- Uniformity and compatibility of and among the different sections of the Performance/Output Specifications
- Performance/Output Specifications read as one document, harmonized with the Agreement and Performance Guarantees
- All definitions consolidated in one or two places

Design Requirements & Issues

- **Control over design in Owner's Requirements**
 - How much does Owner want vs. need?
 - How much “interference” can D-B Contractor tolerate?
- **To what extent is design to be prescribed?**
 - Provides Owner comfort
 - Limits contractor flexibility & innovation
 - Impacts submission costs & schedule
 - Raises issue of who is responsible for design meeting its purpose and potential future claims

Design Requirements & Issues

- Are both design and detailed specifications to be complete and approved by Owner prior to contract execution?
 - Does this transfer risk to Owner?
- Specify submittal process to be used for review of detailed design (drawings and detailed technical specifications)
 - Design concept completed and approved before
 - Design basis memorandum completed and approved before
 - Detailed design completed and approved.
 - Opportunity for Owner to request changes early in process to mitigate cost and schedule impact

Design Requirements & Issues (cont'd)

Who is the “Designer”

- For some projects, critical for there to be single point responsibility for overall design to ensure coordination
- Will Owner require a single design firm to have overall responsibility for the entire design or will Owner allow the design be parceled out to a number of firms?
- Gaps in design, and failure to fully integrate and coordinate design, between different design firms and major equipment manufacturers can lead to significant disputes
 - Remedial measures not always possible after project completion and Owner’s remedies may be inadequate
- Deal with this fully in Performance Specifications by identifying role & responsibility of “Designer” that will be under the D-B Contractor
- Consider requirements for final sign-off/certification of design as constructed

Design Requirements & Issues (cont'd)

Standard of Care

- What is “Standard industry practice”, “Prudent Utility Practice”, “Current Practice”, etc.?
 - Such terms must be defined in contract since often no real “standard” exists and varies between companies/places
- No specific Canadian design standards and codes for some industrial projects
- Where design standards or codes exist, are they of general application or specific/applicable to the particular project under consideration
- Are the standards prescriptive or merely guidelines that leave considerable discretion to designer?
- Use definitions to define what is intended

Design Requirements & Issues (cont'd)

Clarify application of design criteria and codes

- Are specified criteria minimum or maximum?
 - Prior to contract, “minimum” criteria
 - After contract, become “maximum” criteria
- Most codes leave room for interpretation
 - Under D-B-B, Owner's Consultant may use conservative interpretation
 - Under D-B, contractor's engineer may be pressured to use “aggressive” interpretation
 - Minimize issues by specifying criteria for application – e.g. additional load factors or capacity reductions for codes and standards
- Consider use of “reference projects” to simplify requirements

Design Requirements & Issues (cont'd)

Design Review Process

- Disputes often arise over whether something conforms to requirements of Contract
- Design review process often inadequately described
- Define evolution of design and timing of submittals
 - Ensure programme/schedule includes allowance for review, rejection, re-submittal and re-review
 - Design “acceptance” or “approval”
 - Define categories of design documents
 - Next step in design contingent on previous step accepted or approved
 - Issues of non-conformance and potential changes identified early in design process

Design Requirements & Issues (cont'd)

Design Review Process (cont'd)

- Hands off or hands on approach?
 - Consequences - interference vs. input
- Tensions between D-B Contractor and design team where D-B Contractor controls purse strings
- Review by Owner/Owner's Consultant vs. independent technical panel (e.g. independent geotechnical reviewers)
- Must balance D-B Contractor's interests (need for flexibility) and Owner's interests (prudent and safe design that will work and reduce life cycle costs)

Design Requirements & Issues (cont'd)

Modifying design to suit unanticipated site conditions

- Should Owner require mandatory design representative at site?
 - To be representative of the “Designer” on site
 - To promptly identify when unanticipated conditions occur that impact design (i.e. proactive)
 - To coordinate field changes with design office

Final design

- Design creep from preliminary design
- Design “intent” vs. variation/change order
- Final design or justification of preliminary design?
 - Or retroactive justification of what was done without final design (“build-design” vs. “design-build”)?

Performance Security and Holdbacks

- **Performance Security**

- Performance “Bond”
 - Surety bond or L/C? Bank Guarantee? Promissory Notes?
- Parent Guarantee (consider enforceability)
- Retention

- **Lien Holdback**

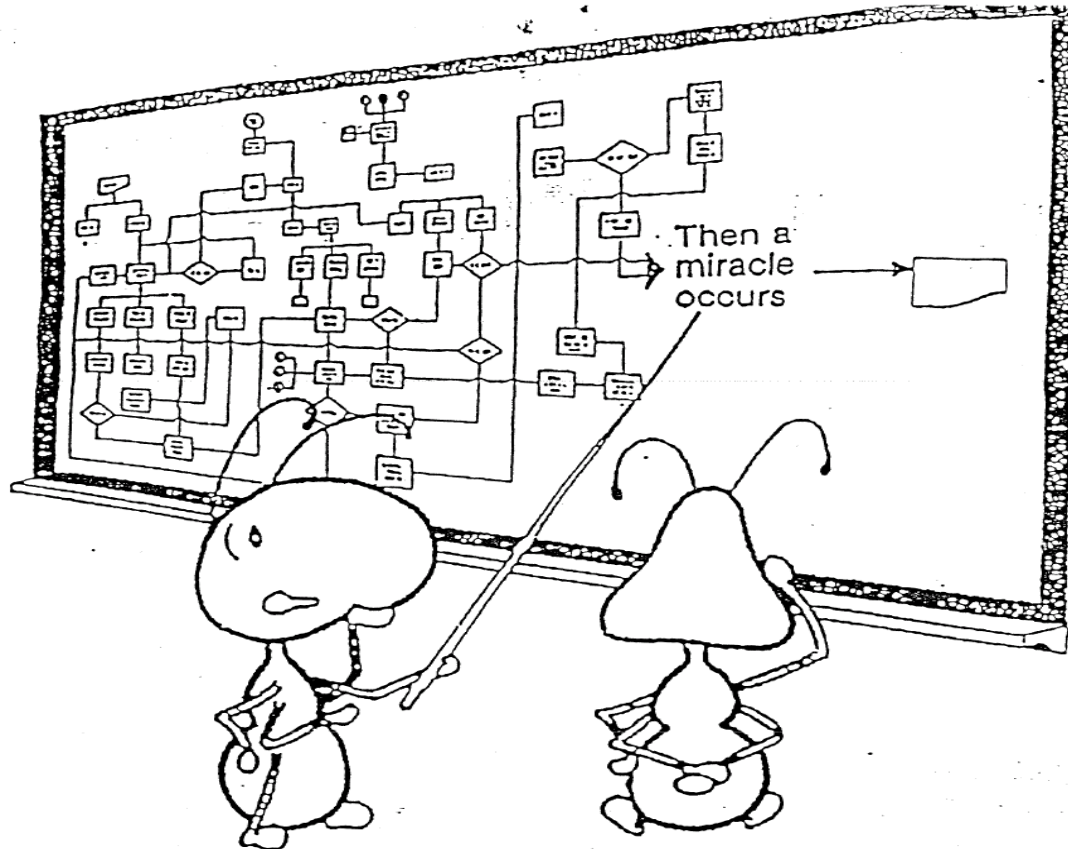
- **Deficiency Holdback**

- **Warranty Holdback**

- **Cumulative Security**

- If excessive, may dissuade potential proponents
- Adversely impacts contractor’s cash flow, precipitating problem
- Increases contract price

Contract Schedule Issues



Good Work. But I think we might need just a little more detail right here!

Contract Schedule Issues (cont'd)

- Schedules often imposed for political or other reasons
- Often treated as “boilerplate”
- Contract often includes schedule submitted with proposal, even when award has been delayed
- Schedule in contract for complex, multi-year projects often unrealistic past first year
- How to compel performance once delay LD cap reached?

Contract Schedule Issues (cont'd)

- Complex, multi-year industrial projects require different approach than building projects
 - Complete and detailed at outset v. progressively detailed
 - Distinction between “construction schedule” and “contract schedule”
 - Commissioning / hand over schedule
 - Responsibility
 - Timing
 - Content

Contract Schedule Issues (cont'd)

- Conditions precedent to progress payments:
 - Receipt of updated construction schedule within preceding 14 days acceptable to Owner
 - Receipt of “4 week look ahead” schedule within preceding 7 days
- Must distinguish between Baseline (Contract) Schedule and Construction Schedule
- If Owner supplies materials, equipment, facilities:
 - Require separate monthly schedule of delivery dates, consistent with latest updated construction schedule
 - Limit Owner delivery obligations in contract to later of dates in contract and dates shown on latest monthly schedule of delivery dates

Third Party Requirements

- Contract should address whether and extent to which relief available if a utility or other third party:
 - fails to provide a service, connection, utility, etc. when required
 - requires additional or higher standards/requirements/etc. to be met to inter-connect with third party's facilities

Force Majeure

- Not a defined term in common law
- Consider breadth of clause
 - “Any cause beyond contractor’s control, including...”
 - “Any of the following causes beyond contractor’s control...”
- Confirm exclusions from Force Majeure
 - Delays in shipping by carriers
 - Weather conditions that do not meet defined criteria
 - Damage in transit
 - Shortage of labour
 - Etc.

Change in Law

- Review and consider exact wording
 - Domestic laws only or also includes foreign laws
 - Legislative enactments or also administrative policies
 - Some provisions only provide for additional cost but not extensions of time
 - D-B Contractor may still be liable for Delay LDs if original date note met

Quality Requirements

- QA/QC is often a concern for D-B contracts
- Schedule delays can pressure QA/QC
 - Ensure D-B Contractor's QA Manager reports to head office, not D-B Contractor's Project Manager
- Mere reliance on ISO and other broad standards is often not sufficient
- Clarify & specify requirements for inspection & test plans, shipping releases, QC release forms, NCRs, QC compliance certificates, etc..
- Note that field modifications to suit typically occur on fast track D-B contracts
 - Risk of “build-design” rather than “design-build”
 - To what extent can Owner live with this?

Commissioning and Turnover Requirements

- Often inadequately dealt with in Performance Specifications
- Commissioning schedules often inadequate in detail
- Owner's/Owner's Consultants often fail to recognize "Final O&M Manuals" never available until months after start-up
 - Must distinguish draft vs. final O&M manuals
- Address & clarify overlap of maintenance vs. warranty vs. deficiency work
- Address D-B Contractor use and replenishment of Owner spares
 - Impact on availability of long-lead time spares

Commissioning and Turnover Requirements (cont'd)

- Role of Owner's O&M personnel during commissioning and training programs for O&M personnel often unclear
 - When are they to be available?
 - Equipment operation prior to facility turnover?
 - Pre and post commissioning
 - Direction and control of commissioning personnel and union jurisdiction issues
 - Responsibility for damage
- Scheduling of testing
- Responsibility for costs of consumables and O&M personnel prior to facility turnover

Insurance

- Owner controlled (OCIP) vs contractor controlled (CCIP)
 - Scope of project vs scope of contract
 - Risks allocated to contractor/retained by owner
 - Requirement for delayed opening/business interruption cover
- Liability for gaps & exclusions
- “Promise to procure”
- BUT – consider practical implications of availability of insurance and policy limits for large projects
 - Consider impact on contracting strategy and risk mitigation strategies
 - e.g. Relative merits of E&O Insurance vs. Independent Design Review Panels

Insurance (cont'd)

- Typical Policies
 - Wrap-up CGL
 - Builders All-Risk
 - Check for Rigger & Hook coverage
 - Professional Errors & Omissions
 - Marine Cargo vs. Inland Waters
- Other Policies
 - Environmental Contamination
 - Contractors Protective Professional Indemnity & Liability
 - Owner's Protective Liability

Termination for Default

- **Failure is Not an Option**
- **Questions:**
 - Other than insolvency of Design-Builder, what are the ramifications of termination?
 - On schedule, cost, warranties and guarantees?
 - Is there a difference between Owner's ability to take over the work where there is termination of an integrated Design-Builder vs. non-integrated Design-Builder?
 - Many contract provisions impose obligations on Design-Builder. What remedies are available where Design-Builder fails to perform? If no remedies, how are those obligations enforceable?

Dispute Avoidance Considerations

- **Conform Contract to Proposal**
 - Consolidate Form of Contract with and conform to RFP, Q&A, Addenda & Proposal Submission
- **Establish and support one or more of:**
 - Independent Design Review Panel
 - Geotechnical Review Panel
 - Oversight Committee
- **Dispute Review Board**

Project Management Committee

- **Owner's Project Management Committee**
 - CEO, CFO, Owner's Representative/Project Manager, Independent Consultant, Legal
 - Obtains weekly Key Indicator Report & Monthly Reports
 - Meets monthly:
 - Receives project, contract, schedule and budget updates
 - Receives report on coordination issues with other contracts and third party requirements
 - Early identification of potential issues and strategy for mitigating and resolving same
 - Resource for and provide guidance to Owner's Rep/Project Manager

Minimizing Scope of Dispute Where Failure Occurs on D-B Project

- **Project completed**
- **Then you get a call: “Houston we have a Problem”**
- **The players:**
 - Owner
 - Owner’s Insurer
 - D-B Contractor
 - D-B Contractor’s insurer
 - Designer
 - Designer’s insurer
 - Owner’s Consultant
 - Owner’s Consultant’s insurer
 - Finger pointing: operation, design, construction

Minimizing Scope of Dispute Where Failure Occurs on D-B Project (cont'd)

- **Problem:**

- Emergency repairs required immediately to prevent even larger failure
- Permanent repairs - schedule & cost

- **Alternative #1: Duck and cover**

- Parties enter immediate litigation mode
- D-B contractor denies liability and refuses to repair
- Owner hires others to design and implement repair
- Multiple parties and insurers inevitably involved
- Dispute resolution heavy consumer of resources, is complex, lengthy and costly

Minimizing Scope of Dispute Where Failure Occurs on D-B Project (cont'd)

- **Alternative #2: Practical Solution**
 - Create “standstill agreement” with agreement of all parties and their insurers
 - Repairs:
 - Performed by contractor to its consultant’s design, at owner’s cost
 - D-B Contractor paid for cost of repairs, by owner and/or insurer(s)
 - Repairs and cost of repairs under close inspection and monitoring by owner and its insurers
 - Upon completion of project and repairs, lawsuits commence
 - Dispute is then primarily over liability, as contractor cannot claim owner paid too much for the repairs
 - Ultimately can be a dispute only between insurers

Minimizing Scope of Dispute Where Failure Occurs on D-B Project (cont'd)

- **Issues in lawsuit**

- Liability, not damages
- “Betterment” for minor improvement to ensure failure mechanism can never occur under any circumstance
 - Cost of “betterment” tracked separately during repairs

- **Result**

- Settled through mediation shortly after pleadings closed and before any significant document production or depositions/examinations for discovery
- Legal costs minimal

Summary of Design-Build Considerations

- **Owner**

- Some advantages: lower up-front cost, reduced risk of claims, single-point responsibility, some room for innovation, forces early decisions on requirements
- Some disadvantages: loss of control (e.g. design, QC, etc.), potentially higher cost of changes

- **D-B Contractor**

- Some advantages: more control, ability to manage conflicts and problems more effectively, and possibly increased opportunity to win contract by innovation
- Some disadvantages: much higher up-front bidding costs and substantially more risk

Summary of Design-Build Considerations (cont'd)

- **Key to success**

- Use of team (consultants and legal) experienced in design-build
- Expend substantial front end effort by Owner and Owner's Consultant
- Prepare comprehensive and well-drafted Performance/Output Specifications that clearly set out Owner's requirements, expectations and, where applicable, performance guarantees
- Designate one knowledgeable person to be responsible for constantly reviewing the whole of the Performance/Output Specifications for consistency and elimination of internal conflicts, and conflicts with "commercial" part of contract

Questions

Helmut Johannsen
hjohannsen@singleton.com
604-673-7431