



Single-Entity Progressive Lump Sum Contracting Approach to Project Delivery

Bechtel Infrastructure Corporation
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Single Entity Progressive Lump Sum Contracting Approach Defined



- A single entity (Contractor) selected under a qualifications based procurement process to design, construct (and operate and maintain) a complex project on a progressively established negotiated lump sum basis
 - Single entity could consist of one firm, or a team consisting of multiple firms
 - Project can be delivered under a PM/CM, Design-Build, Design-Build-Operate-Maintain or Public-Private-Partnership approach
 - Award is based on qualifications of the firm or team regarding their relevant experience, capabilities, financial capacity and management approach to delivering the project
 - Commercial structure would be under an at-risk incentive based fee structure
 - Fixed/Lump-sum pricing for the work packages/project would be negotiated at pre-determined levels of design progress



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Single Entity Progressive Lump Sum Concept



- Selection for negotiations based on single entity qualifications
- Begin with at-risk incentive based fee services
- Option to convert to fixed-price packages
- Ability to convert entire program to lump sum when all packages are fixed

Rather than rewarding for hours spent, the incentive-driven contractor is rewarded for achieving project goals and objectives



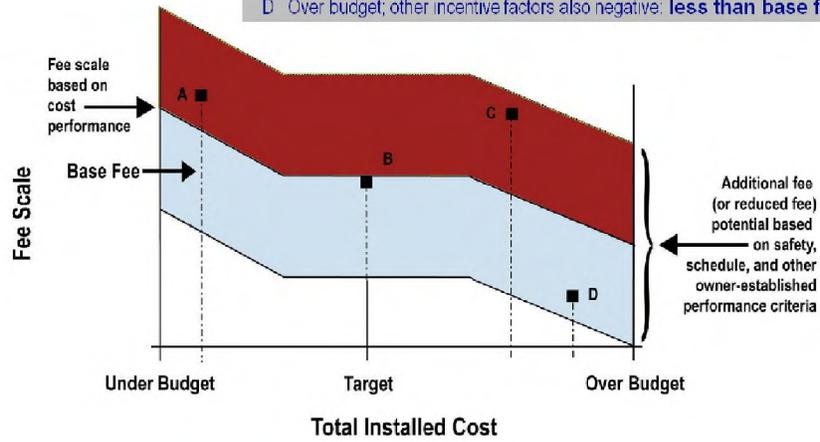
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At-Risk Incentive Based Fee



Possible Fee Scenarios

- A Under budget; other incentive factors positive: **more than base fee**
- B On budget; other factors neutral: **base fee**
- C Over budget, but other factors very positive: **base fee or greater**
- D Over budget; other incentive factors also negative: **less than base fee**



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At-Risk Incentive Based Fee



- Approach allows the City and County of Honolulu (CCH) to incentivize the managing Contractor's performance
- CCH's ability to directly influence the success and support of the project is greatest during this period
- Managing Contractor has direct accountability to the CCH
- At-risk incentive based fee procurements in line with DOD and DOE... both entities use incentive/performance-based contracting approaches
- Incentive contracting allowed by FAR (Subpart 16.4)

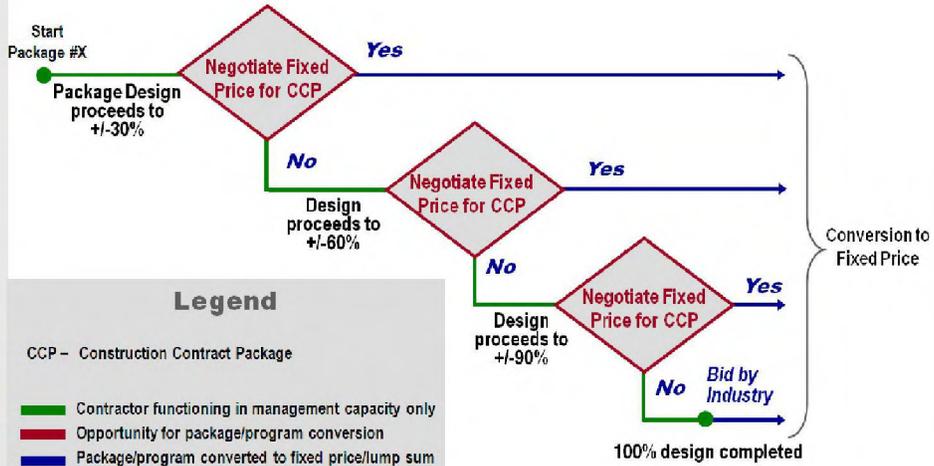


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Lump Sum Price Development



Individual Construction Contract Package Process



Legend

CCP – Construction Contract Package

- █ Contractor functioning in management capacity only
- █ Opportunity for package/program conversion
- █ Package/program converted to fixed price/lump sum

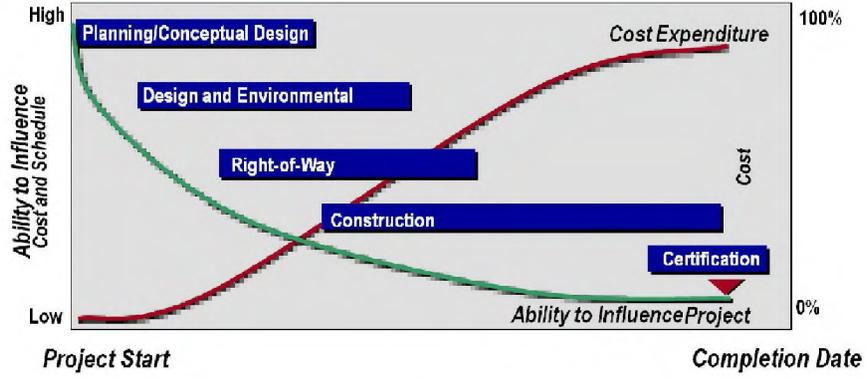


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Early Single Entity Contractor Involvement



Cost Influence Curve



Getting the Contractor involved early provides:

- Cost and Schedule optimization and certainty for CCH
- Greatest value Engineering benefits to CCH and project



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Early Single Entity Contractor Involvement



Benefits

Project Implementation Delivery Analysis	Cost Savings	Schedule Benefit
<p><i>Design-Build Effectiveness Study</i> by FHWA in Jan. 2006, Design Build projects are:</p> <ul style="list-style-type: none"> * 3% less expensive than traditional contracting approaches (Design-Bid-Build, CM@Risk, etc.) * 14% shorter in duration than traditional contracting approaches (Design-Bid-Build, CM@Risk, etc.) 	3%	14%
<p><i>Design-Build Contracting for Highway Projects – A Performance Assessment</i>, by Tom Warne and Associates, LLC, May 2005 concludes:</p> <ul style="list-style-type: none"> * Design-Bid-Build project costs traditionally increase by 5 to 10% level, while Design-Build projects increase at less than 4%. 	~ 4%	N/A
<p><i>Design-Build magazine: an April 1998 study for the Construction Industry Institute</i> reported even more aggressive results and concluded that:</p> <ul style="list-style-type: none"> * Design-Build projects are 4.5% less expensive and complete 23% faster than CM@Risk projects, * Design-Build projects are 6% less expensive and complete 33% faster than Design-Bid-Build projects. 	4.5% to 6%	23% to 33%
DESIGN-BUILD BENEFIT (exclusive of reduced change-orders)	~ 4%	~ 20%



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Key Values and Benefits



- Optimizes the CCH's involvement and control over project outcome
- Maximizes local participation in the project and fosters a sustainable local economy
- Better control in matching project work scope with project funding constraints
- A single entity (or team) ultimately responsible for:
 - Safety of the workers
 - Quality of the work performed
 - Price certainty of the project with appropriate incentives and guarantees
 - Schedule certainty with the requisite incentives and guarantees
 - System operating performance through construction completion and beyond depending on delivery approach
- Allows for implementation of project financing alternatives considering private participation and third party revenue sources



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Ancillary Values and Benefits



- Better control over determining the optimal technical solution to the project
- Higher control over the critical integration activities associated with the civil and system elements of the work
- More efficient packaging of system components to facilitate interim system completion milestones
- Full consideration of the project life-cycle costs
- Minimizes change orders associated with the project integration activities



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Ancillary Values and Benefits



- Opportunity to clearly identify risks and measures of mitigation
- Reduced contingencies through risk analysis leading to lower overall project costs
- Allows for adjustment of project scope and costs to budget due to impact of inflationary pressures
- Enhances involvement of the community and support for the project
- Opportunity to better manage local and state politics



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Single Entity Progressive Lump Sum Comparison



Contracting Approach	Public Entity Key Concerns				
	Interface Risk	Contingency Cost	Contractor Fee	Owner's Control	Claims
Design-Bid-Build (Traditional)	Negative	Neutral	Neutral	Positive	Negative
Design-Build (Traditional)	Positive	Negative	Neutral	Negative	Neutral
SE Progressive Lump Sum*	Positive	Positive	Positive	Positive	Positive

█ Positive
█ Neutral
█ Negative

* Using either PM/CM, DB or DBOM project delivery approach



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Single Entity Progressive Lump Sum Implementation Factors



- Procurement process is based on a qualifications based selection for contract negotiations
- Selection based on weighted criteria such as safety; quality; local participation/commitment; large project experience; financial capacity; and, resource capability
- Open book pricing negotiated during the design process on a package (or project) basis using a government accepted price reasonableness standards
- Legal considerations must address insurance and bonding limits suitable for the project and the market, as well as the selective use of direct hire by the managing contractor
- Allowable legislation/regulations to allow a single entity progressive lump sum contracting approach under various forms of project delivery, including PM/CM, DB, DBOM and PPP



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Select Rail Experience



BART Extensions Program (CA)



- Added 30 miles of extensions to existing 71-mile system, as well as 9 new stations
- Provided General Engineering Consultant, Design, Engineering and Construction Management services
- Completed integrated extensions in four counties on time, within budget and without incident

TIC (est): \$2.7 billion



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Dulles Corridor Metrorail Extension (VA)



- 23-mile extension of Metrorail to Dulles Airport and Loudoun County with 11 new stations
- PPP under VA PPTA act to develop, finance, and design-build
- Innovative finance scheme including excess toll revenues and special taxing district
- Phased implementation, based on federal funding commitments

TIC (est): \$3 billion



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Portland Airport Max Light Rail (OR)



- Five-mile LRT extension to Portland International Airport with 4 new stations
- Unique PPP between Bechtel, TriMet, Port, and City to finance-design-build
- Innovative land lease arrangement provided additional project funding
- Accelerated project completion by 5 years compared to traditional federal process

TIC : \$125 million



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London Underground Privatization (UK)



- Unique PPP with government owner, Bechtel JV-owned "Infraco," and Bechtel Civil to maintain and upgrade rail, signals, power and stations on Jubilee, Northern, and Piccadilly lines serving more than 600 million passengers yearly. Includes 251 trains, 129 stations and 187 miles of track
- One of largest infrastructure financings ever
- Full range of project delivery services: development, financing, project management, procurement, design, engineering, and construction management

TIC (est): \$7 billion (first 7 year period)



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Channel Tunnel Rail Link (UK)



- UK's first high-speed line and largest infrastructure project
- The 68-mile railway will provide high-speed service between the Channel Tunnel and London – cutting by half the current journey time
- Includes construction of new domestic and international stations; major integration with existing network; extensive tunneling, bridge, and viaduct construction; and an active program of community relations and environmental mitigation
- Completion of Section 1 is on schedule and within original budget

TIC (est.): \$8.2 billion



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