

Analysis of Large O&S Proposal

Lessons Learned!

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Presentation Purpose

To relate what I learned while participating in the technical evaluation of a “large” O&S proposal:

- How such a proposal is constructed
- How a technical evaluation proceeds
- What are important factors and considerations

What Will Be Covered

- What are CLINs and BOE's
- Cost to price calculations, how they are performed
- How are BOEs technically evaluated
- Roles and responsibilities in the technical evaluation
- Explanation of G&A, Fringe and OH, Base Labor and COM FPRAs
- Proposal and award contract price comparisons
- Comments and observations

Disclaimer

- **Information presented is representative of proposal cost data and is not actual data from a proposal.**
- **Information and opinions presented are that of the presenter and do not represent an official government or company position.**

CLINs

CLIN = Contract Line Item

Definition: Way in which a contractor may divide a program into projects where cost elements do not overlap and are not correlated.

CLIN metrics:

1. Hundreds of WBS elements per CLIN
2. Total proposal can be thousands of pages long, multiple sections and appendices
3. Restatement of cost information in multiple formats

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CLIN Sell Price

ODC = Other Direct Charges

G&A = General & Administrative

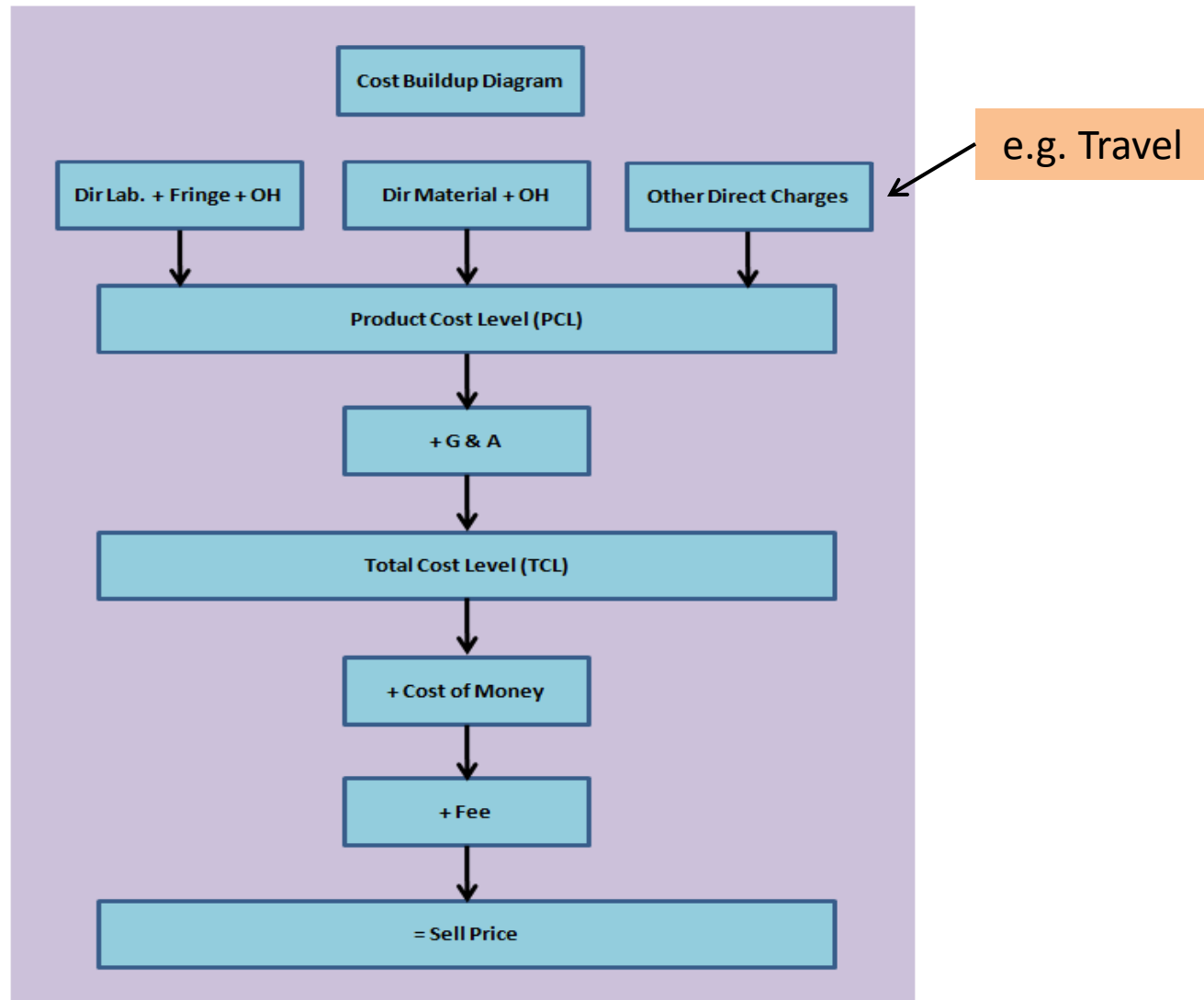
COM = Cost of Money

1.1 Section A – Supplies, Services and Prices

CLIN Title	Direct Labor Hours	Total Labor Dollars	Total Material Dollars	ODC Dollars	Product Cost Level	Total G & A Dollars	Total Cost Level wo/COM	COM	Total TCL+ COM	Fee	Sell Price
0001 Pgm Mgmt & Sust Engrg	165,780	\$20,722,500	\$10,361,250	\$2,072,250	\$33,156,000	\$2,818,260	\$35,974,260	\$93,251	\$36,067,511	\$5,036,396	\$41,103,908
0002 Depot Level Maintenance	45,135	\$5,641,875	\$2,820,938	\$564,188	\$9,027,000	\$767,295	\$9,794,295	\$25,388	\$9,819,683	\$1,371,201	\$11,190,885
0003 Fielded System 1 O&S	9,399	\$1,174,875	\$12,807,563	\$1,280,756	\$15,263,194	\$1,297,372	\$16,560,566	\$5,287	\$16,565,853	\$2,318,479	\$18,884,332
0003 Fielded System 2 O&S	7,439	\$929,875	\$8,654,326	\$865,433	\$10,449,634	\$888,219	\$11,337,852	\$4,184	\$11,342,037	\$1,587,299	\$12,929,336
0003 Fielded System 3 O&S	5,387	\$673,375	\$6,329,542	\$632,954	\$7,635,871	\$649,049	\$8,284,920	\$3,030	\$8,287,950	\$1,159,889	\$9,447,839
0003 Fielded System 4 O&S	2,873	\$359,125	\$4,281,346	\$428,135	\$5,068,606	\$430,831	\$5,499,437	\$1,616	\$5,501,053	\$769,921	\$6,270,974
0003 Fielded System 5 O&S	4,919	\$614,875	\$6,783,101	\$678,310	\$8,076,286	\$686,484	\$8,762,770	\$2,767	\$8,765,537	\$1,226,788	\$9,992,325
0003 Fielded System 6 O&S	9,399	\$1,174,875	\$13,789,499	\$1,378,950	\$16,343,324	\$1,389,183	\$17,732,506	\$5,287	\$17,737,793	\$2,482,551	\$20,220,344
0003 Fielded System 7 O&S	4,538	\$567,250	\$5,943,281	\$594,328	\$7,104,859	\$603,913	\$7,708,772	\$2,553	\$7,711,325	\$1,079,228	\$8,790,553
0003 Fielded System 8 O&S	5,193	\$649,125	\$7,432,908	\$743,291	\$8,825,324	\$750,153	\$9,575,476	\$2,921	\$9,578,397	\$1,340,567	\$10,918,964
0003 Fielded System 9 O&S	2,432	\$304,000	\$3,245,991	\$324,599	\$3,874,590	\$329,340	\$4,203,930	\$1,368	\$4,205,298	\$588,550	\$4,793,848
Totals	262,494	\$32,811,750	\$82,449,745	\$9,563,193	\$124,824,688	\$10,610,098	\$135,434,786	\$147,653	\$135,582,439	\$18,960,870	\$154,543,309

- Subcontractor work credited as Material
- In this case subcontractors were corporate divisions. What’s the impact?

Cost Buildup Diagram



All costs subject to G&A

Fee calculation does not include COM

Technical Evaluation of BOEs

BOE = Basis of Estimate

Definition: Way in which a contractor justifies costs.

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Subcontractor BOE Summary

Subcontractor BOE Cost Summary

Includes Fringe, Overhead and G&A

Code	TBD			
Sequence	TBD			
Year	2013			
Direct Material Elements	Unburden	Burden	Percent	Material
Material	\$987,543	\$7,900	0.8	\$995,443
Total Material	\$987,543	\$7,900		\$995,443
Direct Labor Elements		Hours		
Engineer		571	\$55.89	\$31,913
Analyst		91	\$50.43	\$4,589
Logistician		202	\$45.27	\$9,145
Clerical		435	\$24.98	\$10,866
Total Direct Labor		1299		\$56,513
Fringe Benefits		F/B Base	Percent	F-B Lbr
Professional		\$36,502	54.00	\$19,711
Support Engineering		\$9,145	52.45	\$4,796
Services		\$10,866	49.34	\$5,361
Total Fringe Benefits		\$56,513		\$29,869
Overhead		O/H Base	Percent	Overhead
Professional		\$36,502	126.75	\$46,267
Support Engineering		\$9,145	67.85	\$6,205
Services		\$10,866	67.85	\$7,373
Total Overhead		\$56,513		\$59,844
Total D/L, F/B, OH				\$146,226
ODC Elements	Unburden	Burden	Percent	ODC
Travel	\$17,543	0	0.00	\$17,543
Total ODC	\$17,543			\$17,543
Total PCL Cost				\$1,159,213
G & A Expense		Base	Percent	G & A
Professional		\$1,115,467	10.86	\$121,140
Support Engineering		\$20,145	4.95	\$997
Services		\$23,601	4.95	\$1,168
Total G & A Expense		\$1,159,213		\$123,305
Total Estimated Cost				\$1,282,518
Total TCL + COM				\$1,288,289
Total Price				\$1,288,289

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Contractor BOE Presentation

Basis of Estimate											
RFP #				Date:				ID#:			
Program Name:				WBS:							
Task Title: Sample				Option:							
Organization:				SOW Ref.:				Prepared By:			
								Approved By:			
Cost Center #:											
Period of Performance:		Start:			End:			BOE ID:			
Summary:											
Material										\$	-
Labor Classifications											Total Hrs
ENG											123
LOG											458
ODC										\$	-
ESTIMATING METHOD: Historical											
Task Description (includes subtasks)											
The Sample task will support....											
The Sample task encompasses....											
Scope											
The scope of the Sample task is....											

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Contractor BOE Presentation

Basis of Estimate / Supporting Data											
<u>Labor BOE</u>											
The basis for the estimate is based on historical actuals from the prior...											
Note: Historically, the actual hours charged have been at the LOG rate. However because of a reorganization, this task will include charges at the ENG rate.											
Based on historical data											
Contract for History:											
Contract Name:											
Period of Performance:											
Actual Hours: 671											
Reorganization Formula: LOG Hrs = Actual LOG Hrs * 0.788											
ENG Hrs = Actual LOG Hrs * 0.212											
<u>Material BOE</u>											
No Material associated with this BOE											
<u>ODC BOE</u>											
No ODC associated with this BOE											

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BOE Technical Evaluation

BOE ID	BOE Description	Labor Hrs		Material		ODC		Agree	Rationale
		Prime Cntr Proposed	Govt	Prime Cntr Proposed	Govt	Prime Cntr Proposed	Govt		
0001-0001	Logistics Operations - Supply Chain Mgmt	152				\$1,234		YES	
0001-1002	Logistics Operations - Supply Chain Facilities			\$255,412	\$191,559	\$7,675	\$5,756	NO	Supply Chain Facilities Material and ODC (travel) costs incorrectly calculated based on FY12 usage. FY13 usage estimated to be 75% of FY12 usage
0001-1003	Logistics Operations - Supply Chain Planning	656	492					NO	Reduced operations in FY13 will require less planning hours
0001-1004	Logistics Operations - Supply Chain Tools			\$28,756				YES	
0001-1005	Operations - Test Equipment Mgmt	235				\$4,892		YES	
0001-1006	Operations - Test Equipment Certification	268						YES	
0001-1007	Operations - Test Equipment Repair	392	294					NO	Reduced operations in FY13 will require less test equipment repairs
0001-1008	Operations - Test Equipment Spare Parts			\$97,340	\$73,005			NO	Reduced operations in FY13 will require less test equipment repairs

CONOPS not always scalable

- Product Office engineers and cost analysts perform technical evaluations
- PMs review and approve

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BOE Cost Analysis

BOE ID	BOE Description	Model WBS Element	\$/Hr	Labor \$	Material \$	ODC \$
0001-0001	Logistics Operations - Supply Chain Mgmt	Depot	\$149.65	\$22,747		\$1,468
0001-1002	Logistics Operations - Supply Chain Facilities	Depot			\$227,955	\$6,850
0001-1003	Logistics Operations - Supply Chain Planning	Depot	\$127.56	\$62,760		
0001-1004	Logistics Operations - Supply Chain Tools	Depot			\$34,220	
0001-1005	Operations - Test Equipment Mgmt	Depot	\$149.65	\$35,168		\$5,821
0001-1006	Operations - Test Equipment Certification	Depot	\$97.85	\$26,224		
0001-1007	Operations - Test Equipment Repair	Depot	\$85.32	\$25,084		
0001-1008	Operations - Test Equipment Spare Parts	Depot			\$86,876	

Cost Analyst verifies pricing, assigns costs to model cost elements

OSD CAIG Cost Estimating Structure

Second-Level Cost Estimating Structure

1. Unit-Level Manpower

- 1.1 Operations
- 1.2 Unit-Level Maintenance
- 1.3 Other Unit-Level

2. Unit Operations

- 2.1 Operating Material
- 2.2 Support Services
- 2.3 Temporary Duty

3. Maintenance

- 3.1 Organizational Maintenance
- 3.2 Intermediate Maintenance
- 3.3 Depot Maintenance

4. Sustaining Support

- 4.1 System Specific Training
- 4.2 Support Equipment Replacement
- 4.3 Sustaining Engineering and Program Management
- 4.4 Other Sustaining Support

5. Continuing System Improvements

- 5.1 Hardware Modifications or Modernization
- 5.2 Software Maintenance and Modifications

6. Indirect Support

- 6.1 Installation Support
- 6.2 Personnel Support
 - 6.2.1 Personnel Administration
(Personnel Acquisition ,
Individuals Overhead Accounts)
 - 6.2.2 Personnel Benefits
(Family Housing, Commissaries,
Child & Family Support, DoD Schools)
 - 6.2.3 Medical Support
- 6.3 General Training and Education
 - 6.3.1 Basic & Initial Skill Training
 - 6.3.2 Educational Activities

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G & A Forward Price Rate Agreements (FPRAs)

Definition: FPRAs, they are what they say, agreements to future prices.

G & A Rates					
Category	2012	2013	2014	2015	2016
Main Business Unit	12.52%	11.31%	11.76%	12.05%	11.82%
Division #1	9.63%	8.78%	9.02%	9.45%	9.23%
Division #2	10.67%	10.43%	10.54%	10.60%	10.22%
Foreign Contract	14.67%	13.95%	14.21%	13.77%	14.01%

Pension Protection Act 2007: Recapture of underfunded pension/retirement plan?

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Fringe and Overhead FPRAs

Fringe & Overhead Rates					
Category	2012	2013	2014	2015	2016
Engineering Fringe	55.20%	58.20%	62.40%	65.80%	68.30%
Manufacturing Fringe	60.70%	65.60%	70.20%	75.10%	80.70%
Engineering Overhead	38.60%	38.40%	37.90%	38.60%	38.30%
Manufacturing Overhead	44.80%	44.20%	43.90%	44.00%	44.50%

- What's in Fringe: FICA (7.5%), Benefits: Health Ins (15%), Leave/Holidays (10%), 401K Contribution (5%)

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Direct Labor FPRAs

Direct Labor Wage Rates					
Category	2012	2013	2014	2015	2016
Engineering	\$62.55	\$64.43	\$66.36	\$68.35	\$70.40
Manufacturing	\$44.19	\$45.74	\$46.99	\$48.64	\$50.34
Services	\$36.44	\$37.44	\$38.47	\$39.53	\$40.62

- Wage Rates increase at a 3% clip, vs. US Gov't Indices for 2012, approx. 1% (MPA)
- How should labor rates be modeled beyond FPRA?
- Government may use labor rates (GSA schedules) as a selection criteria in non-sole source competitions

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COM FPRAs

Cost Of Money Rates					
Category	2012	2013	2014	2015	2016
Engineering	0.473%	0.449%	0.415%	0.389%	0.370%
Manufacturing	0.883%	0.856%	0.724%	0.686%	0.624%
Services	0.601%	0.555%	0.501%	0.473%	0.422%

Cost of Money (COM) – Pursuant to Cost Accounting Standard (CAS) 414 and Defense Procurement Circular (DPC) 76-3, forward pricing rates for Facilities Capital Cost of Money (COM) have been developed. The imputed cost of facilities capital is calculated by applying the interest rate designated by the US Secretary of the Treasury to the average net book value of facilities allocated to each burden center. The COM rate is determined by dividing the imputed cost by the corresponding direct labor *base (including applied fringe) or total cost input base for G&A.* COM is computed by multiplying the appropriate COM rate by the corresponding allocation base.

Interesting that the government allows a company to make a capital investment in “brick and mortar” and then bill for lost interest

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Proposal vs. Award

Proposal vs. Award

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001		UNDEFINED	Lot	UNDEFINED	\$22,405,925
	CPIF				
	FOB: Origin				
	PURCHASE REQUEST NUMBER: 0001-2013				
				TARGET COST	\$19,654,321 (EST.)
				TARGET FEE	\$2,751,605
		TOTAL TGT COST + FEE			\$22,405,925 (EST.)
		MINIMUM FEE			\$2,531,476 (EST.)
		MAXIMUM FEE			\$2,916,701 (EST.)
		SHARE RATIO ABOVE TARGET			50/50
		SHARE RATIO BELOW TARGET			50/50

- Proposal Sell Price: \$25,542,754
- Award: \$22,405,925
- Secret: 14.2 % savings driven by CONOPS and PBR (PO has already decided how the system will be staffed and operated and already requested funds to support that concept of operation)

Recap

- Proposals constructed of CLINs, CLIN Product Level Costs justified by BOE's
- Labor, Materials and ODCs all subject to G&A and Fee
- BOEs require careful technical evaluation
- Government product office personnel responsible for BOE technical evaluations
- Large proposal evaluations are time consuming
- FPRAs useful for out year cost estimating
- Proposal prices and awards are carefully arrived at quantities

Additional Comments, Observations

- Small contracts often awarded with 3, 4 or 5 option years
- Large contracts awarded with shorter periods of performance, 0 or 1 option years.
- Product offices have to perform technical evaluations more frequently for large contracts
- Product offices are also responsible for contract execution, for O&S this means daily operations in support of the war fighter
- Contractor services sometimes operate as “undefinitized”

Large O&S Contract - Construction and Analysis

Thank you, hope you've been informed!