

Incentive Contracting



Contract Type Overview

Presented by Anthony J. Nicolella
Professor of Contracts Management, DAU-S

- Contract Incentives Policy Overview
- Formula Type Incentive Contracts vs. Award Fee Contracts
- FPIF/CPIF Comparison
 - Key elements
 - CPIF: Range of Incentive Effectiveness (RIE)
 - FPIF: Point of Total Assumption (PTA)
- CPIF/FPIF Grapher eTool Demonstration
- Questions

- FAR 16.4 addresses incentive contracts
- There are 2 major types of incentives:
 - Formula Type Incentive (FAR 16.402)
 - Award Fee (FAR 16.404)
- What are some typical applications for formula type incentive and award fee contracts?
 - See Contract Price Reference Guides (CPRG), Volume 4, Chapter 1, Para 1.1

Formula Type Incentive Contracts vs. Award Fee Contracts

	Fixed-Price Incentive Firm (FPIF)	Fixed-Price Award-fee (FPAF)	Key: Formula type = gold ; award fee = green	Cost-Plus Incentive-Fee (CPIF)	Cost-Plus Award-Fee (CPAF)
Principal Risk to be Mitigated	Moderately uncertain contract labor or material requirements.	Risk that the user will not be fully satisfied because of judgmental acceptance criteria.	Principal Risk to be Mitigated	Highly uncertain and speculative labor hours, labor mix, and/or material requirements (and other things) necessary to perform the contract. The Government assumes the risks inherent in the contract -benefiting if the actual cost is lower than the expected cost-losing if the work cannot be completed within the expected cost of performance.	
Use When..	A ceiling price can be established that covers the most probable risks inherent in the nature of the work. The proposed profit sharing formula would motivate the contractor to control costs to and meet other objectives.	Judgmental standards can be fairly applied by an Award-fee panel. The potential fee is large enough to both: Provide a meaningful incentive. Justify related administrative burdens.	Use When..	An objective relationship can be established between the fee and such measures of performance as actual costs, delivery dates, performance benchmarks, and the like.	Objective incentive targets are not feasible for critical aspects of performance. Judgmental standards can be fairly applied. ¹ Potential fee would provide a meaningful incentive.
Contractor Incentive (other than maximizing goodwill)¹	Realizes a higher profit by completing the work below the ceiling price and/or by meeting objective performance targets.	Generally realizes an additional dollar of profit for every dollar that costs are reduced; earns an additional fee for satisfying the performance standards.	Contractor Incentive (other than maximizing goodwill)¹	Realizes a higher fee by completing the work at a lower cost and/or by meeting other objective performance targets.	Realizes a higher fee by meeting judgmental performance standards.
Typical Application	Production of a major system based on a prototype	Performance-based service contracts.	Typical Application	Research and development of the prototype for a major system.	Large scale research study.
Principal Limitations in FAR Parts 16, 32, 35, and 52	Must be justified. Must be negotiated. Contractor must have an adequate accounting system. Cost data must support targets.	Must be negotiated.	Principal Limitations in FAR Parts 16, 32, 35, and 52	The contractor must have an adequate accounting system. The Government must exercise surveillance during performance to ensure use of efficient methods and cost controls. Must be negotiated. Must be justified. Statutory and regulatory limits on the fees that may be negotiated. Must include the applicable Limitation of Cost clause at FAR 52.232-20 through 23.	

- There are three formula-type incentives (FAR 16.402-1,-2,& -3):
 - 1. Cost
 - 2. Performance
 - 3. Delivery
- Multiple incentives can be used in a contract (FAR 16.402-4)
- There is a mandatory incentive

- BBP Focus Area: Incentivize Productivity and Innovation in Industry
 - Principle: Increase use of Fixed Price Incentive Firm (FPIF) Contracts:
 - One contract size does not fit all.
 - CPAF Contracts with subjective measures not conducive to controlling costs.
 - Incentive is important since it shares costs of overruns and reward underruns, giving both sides an incentive for good performance.
 - FPIF should be contracting officer's point of departure when appropriate.
 - FPIF appropriate for early production and single-source production where price improvement can be rewarded.

FPIF Contract (52.216-16)

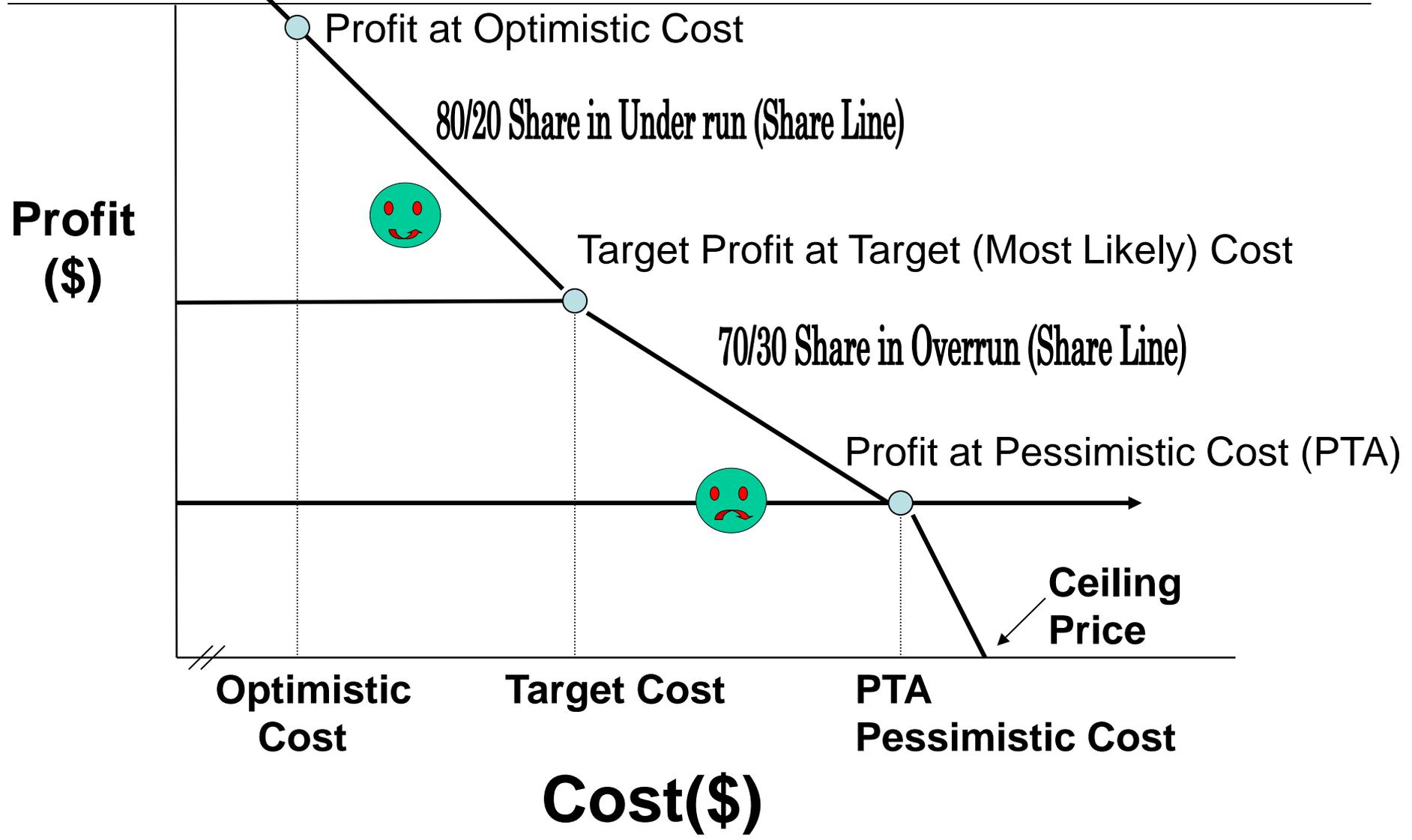
- Target Cost
- Target Profit
- Profit Adjustment Formula
- Ceiling Price
- Point of Total Assumption
- ❖ Not specified in contract clause

CPIF Contract (52.216-10)

- Target Cost
- Target Fee
- Fee Adjustment Formula
- Minimum Fee
- Maximum Fee
- Range of Incentive Effectiveness

Fixed Price Incentive Firm (FPIF)

Compensation Arrangement



- What happens at the PTA?

Government stops sharing in the cost over-run.

- When should I calculate the PTA?

At contract award.

- What should I do when the contractor approaches or hits PTA?

Increase contract oversight.



Calculating the PTA

Recall our FPIF example: Target Cost - \$1,000,000; Target Profit - \$110,000; (Target Price - \$1,110,000); Ceiling Price - \$1,250,000; 70/30 Over; 80/20 Under.

$$\text{PTA}_{(\text{cost})} = \text{Target Cost} + [(\text{Ceiling Price} - \text{Target Price}) \div \text{Government Overrun share}]$$

$$= \$1,000,000 + [(\$1,250,000 - \$1,110,000) \div 0.70]$$

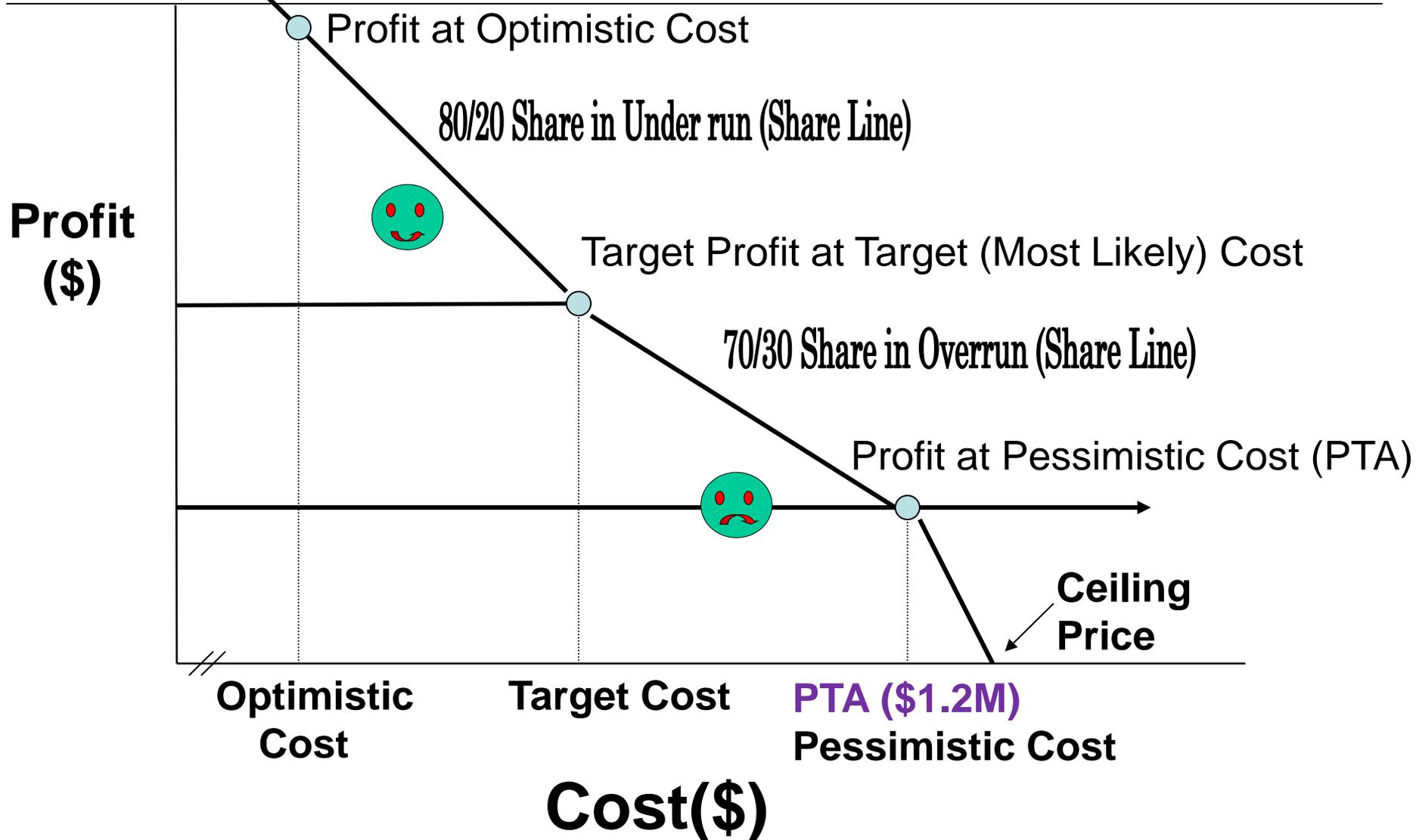
$$= \$1,000,000 + [\$140,000 \div 0.70]$$

$$= \$1,000,000 + \$200,000$$

$$= \$1,200,000$$

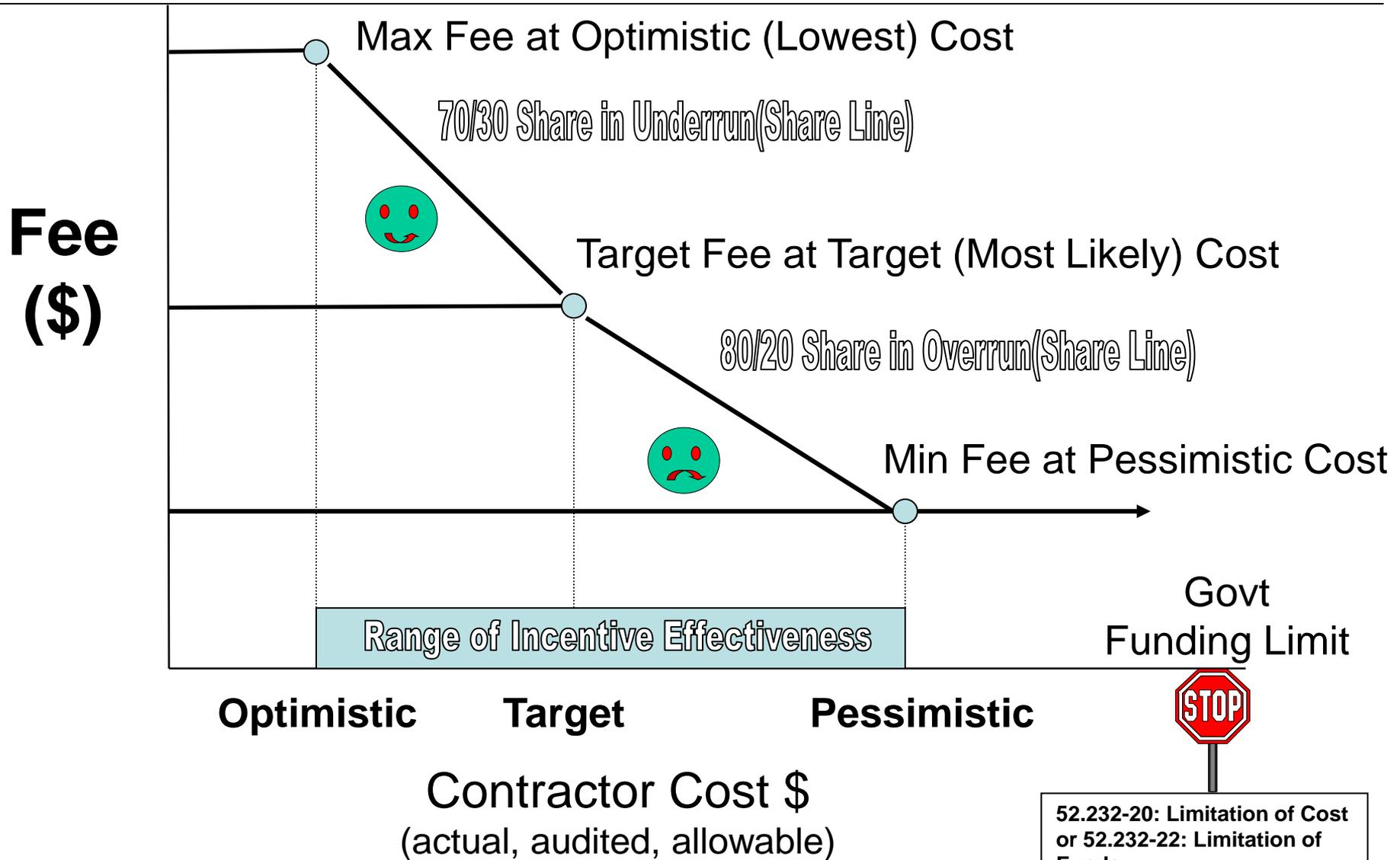
Fixed Price Incentive Firm (FPIF)

with point of total assumption (PTA) illustration



Cost Plus Incentive Fee

Compensation Arrangement



52.232-20: Limitation of Cost
or 52.232-22: Limitation of Funds

- Why is the knowing RIE so important?

Contractor can be motivated to do better as long as they stay within the lower and upper limits of the RIE. Once outside of these limits, contractor has no incentive to do better, e.g., control costs.

Calculating the RIE

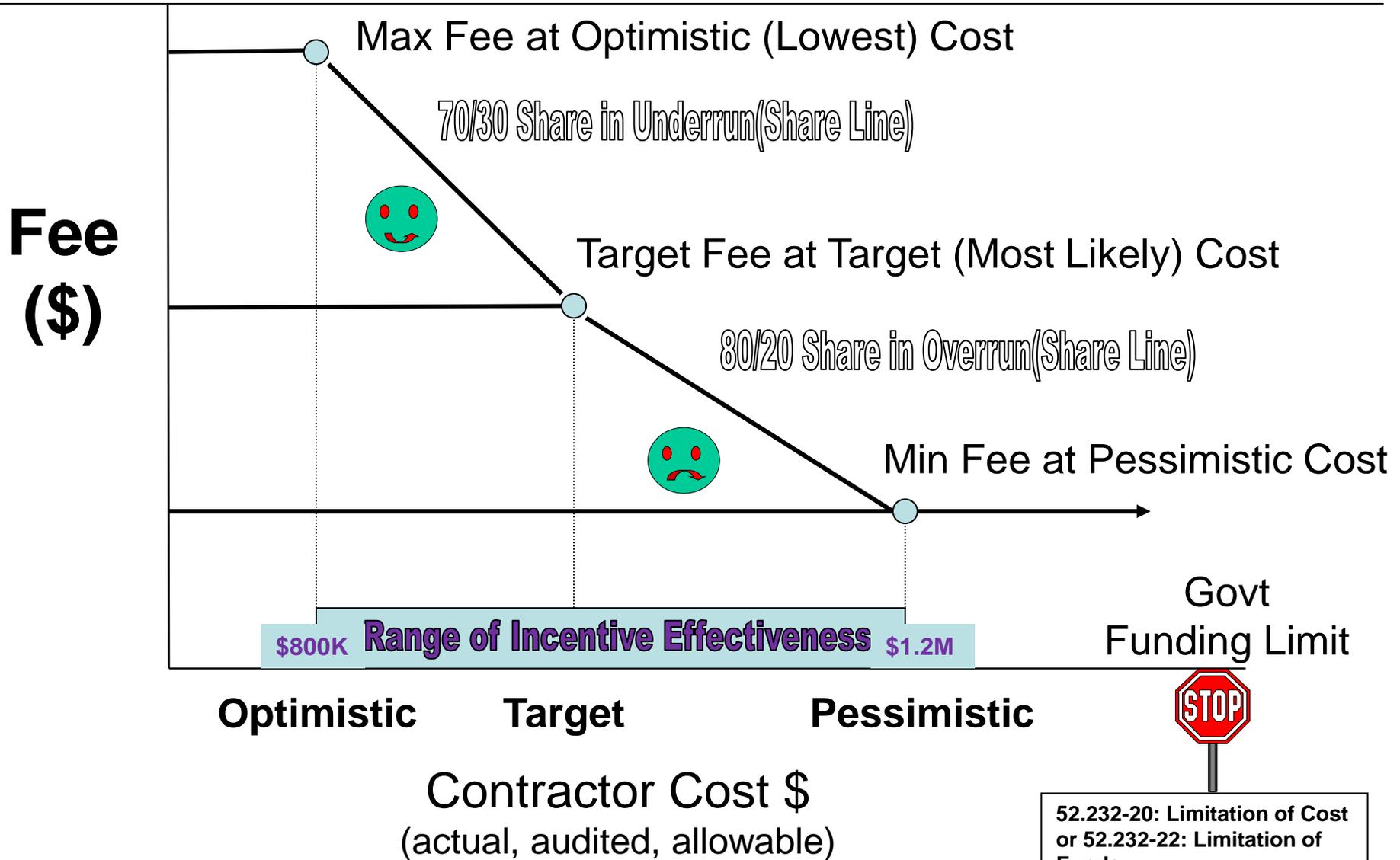
Recall our CPIF example: Target Cost - \$1,000,000; Target Fee - \$70,000; Max Fee - \$90,000; Min Fee - \$30,000; 90/10 Under; 80/20 Over.

$$\begin{aligned} \text{RIE}_{(\text{lower})} &= \text{Target Cost} - [(\text{Max Fee} - \text{Target Fee}) \div \text{Contractor Underrun share}] \\ &= \$1,000,000 - [(\$90,000 - \$70,000) \div 0.10] \\ &= \$1,000,000 - [\$20,000 \div 0.10] \\ &= \$1,000,000 - \$200,000 \\ &= \$800,000 \end{aligned}$$

$$\begin{aligned} \text{RIE}_{(\text{higher})} &= \text{Target Cost} + [(\text{Target Fee} - \text{Min Fee}) \div \text{Contractor Overrun share}] \\ &= \$1,000,000 + [(\$70,000 - \$30,000) \div 0.20] \\ &= \$1,000,000 + [\$40,000 \div 0.20] \\ &= \$1,000,000 + \$200,000 \\ &= \$1,200,000 \end{aligned}$$

Cost Plus Incentive Fee

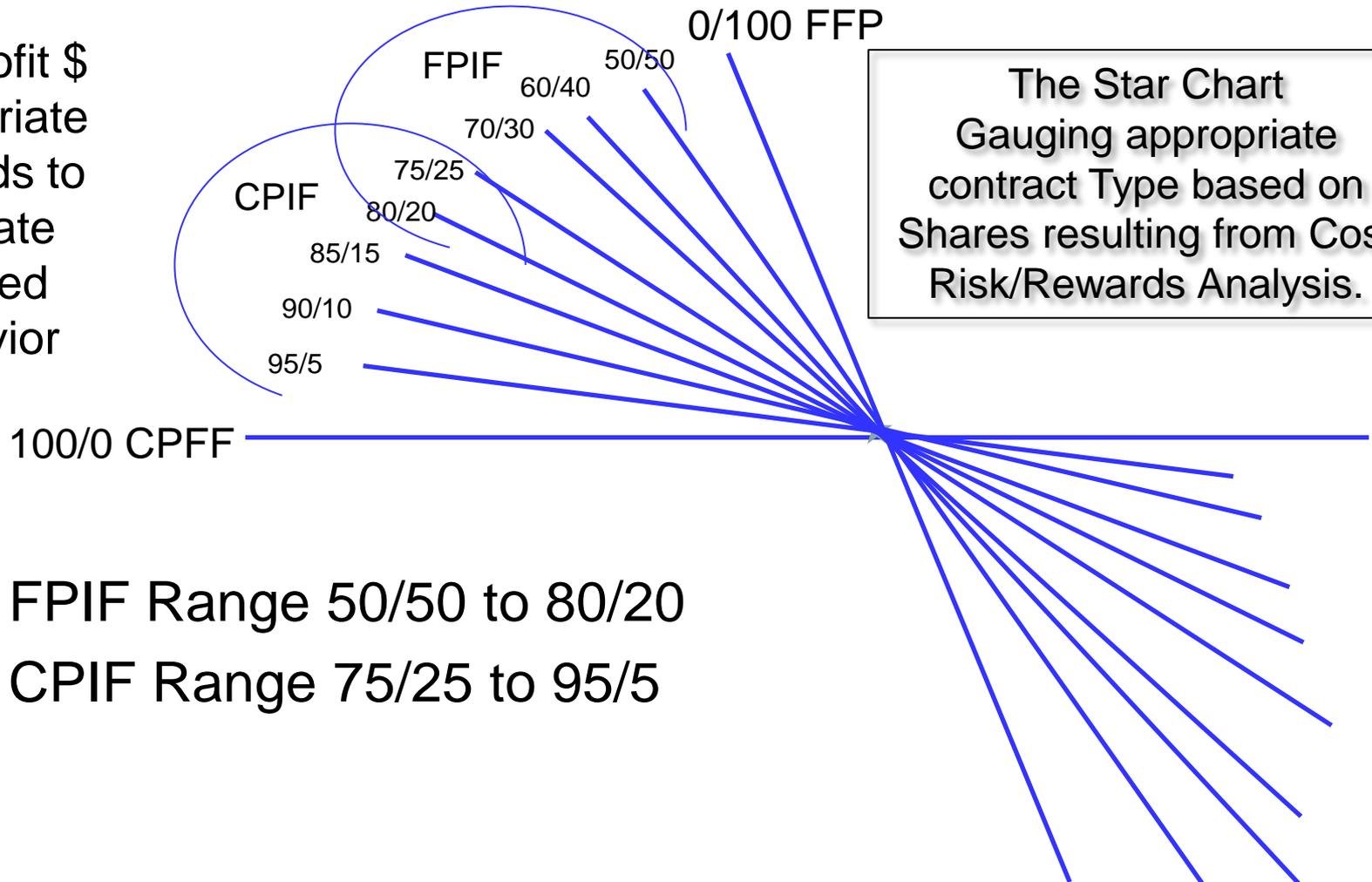
with range of ineffectiveness (RIE) illustration



52.232-20: Limitation of Cost
or 52.232-22: Limitation of Funds

Risk/Rewards Analysis in Acquisition Planning

Fee/Profit \$
Appropriate
Rewards to
Motivate
Desired
Behavior



Go to ACC website (contract, cost, and finance/tools and templates/FPIF/CPIF Grapher) to download eTool:

<https://acc.dau.mil/CommunityBrowser.aspx?id=399164>





FPIF/CPIF Grapher - FPIF

#VALUE!	
Target Cost	
Target Profit %/\$	\$ -
Target Price	\$ -
Ceiling %/\$	\$ -
Assigned Shares	
Under Target	Govt / Ktr
Over Target	/
Calculated Shares	
Optimistic	Cost Profit
Pessimistic	/
Under Target	Govt / Ktr
Over Target	/
Point of Total Assumption (PTA)	
#VALUE!	
Final Actual Audited Allowable Cost:	
Final Contract Price:	
Final Contractor Profit (Loss):	
Final Contractor Profit (Loss) %:	

Enter your analysis notes here.

Analyst Notes

Thousands

	Govt	/Ktr	Under	#VALUE!	#VALUE!
			Over	#VALUE!	#VALUE!
Target-PTA					
Cost					
Profit/(Loss)					
left Scaler	2				
Cost	\$ -				
Profit/(Loss)	\$ -				
#VALUE!	#VALUE!				
right scaler	1				
Ceiling					
Cost	\$ -				
Profit	#VALUE!				
#VALUE!	#VALUE!				
#VALUE!	#VALUE!				
Final Cost - Profit (Loss)					
Cost	\$ -				
Profit/(Loss)	\$ -				
0	0				
Final Price horizontal					
Cost	\$ -				
Profit/(Loss)	\$ -				
Target Cost	\$0				
Target Profit	\$0				
Target Price	\$0				
Ceiling Price	\$0				
Dollar Text					



FPIF Problem (FAR 52.216-16)

1. You have a FPIF contract with a target cost of \$12,500,000 and a target profit of \$1,500,000. The associated clause states...

(a) *General.* The supplies or services identified in the Schedule as Items 0001 are subject to price revision in accordance with this clause; provided, that in no event shall the total final price of these items exceed the ceiling price of 15,000,000 dollars (\$15,000,000). Any supplies or services that are to be (1) ordered separately under, or otherwise added to, this contract and (2) subject to price revision in accordance with the terms of this clause shall be identified as such in a modification to this contract.

(2) The total final price shall be established by applying to the total final negotiated cost an adjustment for profit or loss, as follows:

- (i) If the total final negotiated cost is equal to the total target cost, the adjustment is the total target profit.
- (ii) If the total final negotiated cost is greater than the total target cost, the adjustment is the total target profit, less 15% percent of the amount by which the total final negotiated cost exceeds the total target cost.
- (iii) If the final negotiated cost is less than the total target cost, the adjustment is the total target profit plus 25% percent of the amount by which the total final negotiated cost is less than the total target cost.

Given a final cost of \$14,200,000 determine the final profit and the final price.

Final Profit _____

Final Price _____

Questions



Back-Up



Multiple Incentives – Adding Performance and/or Schedule

- Why Incentives?
 - Reward technical performance
 - Reward schedule performance
 - Emphasize cost control
- What to Incentivize?
 - What's important to the program
 - What motivates the contractor
 - Match the program objectives to the incentives



Incentivizing Contractor Performance (con't)

- Incentives are **not** a gift
- Incentives should be earned through performance
- Effective incentive arrangements
 - Must be large enough to motivate performance
 - Provide a meaningful return to contractor
- Enhanced performance must add value to the mission
- Reward must be commensurate with risk
 - How much are we willing to pay to achieve performance?
 - Incentive must be worth contractor investment
- Incentives should be challenging, but realistic and attainable



Considering a Performance Incentive on a FPI Contract

Army has a requirement for a gun to shoot a minimum of 20 miles, but it would be great if it would shoot 21 miles.

Given firm requirement – candidate for CPI or FPI?

Tech estimates it would cost the contractor additional \$2M for 21 mile gun.

- If we start with a 50/50 share, what would be the minimum incentive value to make it worth the contractor's pursuit?

<u>Agency</u>	<u>Cost</u>	<u>Benefit</u>
Government	\$1M - cost share <u>\$1M</u> - incentive to KTR \$2M	Get a gun that can shoot 21 miles instead of 20 miles.
Contractor	\$1M	\$1M

Multiple Incentive Summary

- Need to have a technical and/or cost analysis assessment of the contractor's "cost to pursue" the incentive.
- Must be valued high enough to make them meaningful.
- The perceived value will be affected by the share line.
- Increasing the number of incentives can cause countervailing affects
 - Unintended consequences
 - Too many allows the contractor to choose from a gallery
 - Contractor's choices may not be in the program's best interest.



CPIF Problem (FAR 52.216-10)

1. You have a CPIF contract with a target cost of \$14,500,000 and a target fee of \$942,500. The associated clause states...

(e) *Fee payable.* (1) The fee payable under this contract shall be the target fee increased by 20 cents for every dollar that the total allowable cost is less than the target cost or decreased by 10 cents for every dollar that the total allowable cost exceeds the target cost. In no event shall the fee be greater than 8 percent or less than 2 percent of the target cost.

Determine the minimum and maximum fees.

Minimum Fee _____

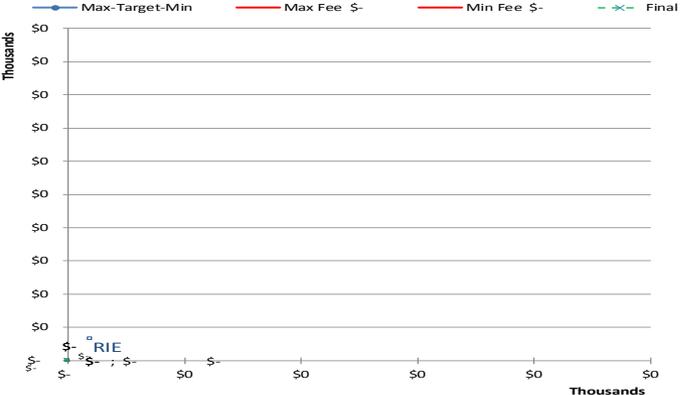
Maximum Fee _____

Given a final cost of \$15,200,000 determine the final fee and the final contract funding.

Final Fee _____

Final Contract Funding _____

#VALUE!	
Target Cost	
Target Fee %/\$	\$ -
Total Initial Funding	\$ -
Minimum Fee %/\$	\$ -
Maximum Fee %/\$	\$ -
<hr/>	
Assigned Shares	Govt / Ktr
Under Target	/ /
Over Target	/ /
<hr/>	
Calculated Shares	Cost Fee
Optimistic	/ /
Pessimistic	/ /
	Govt / Ktr
Under Target	/ /
Over Target	/ /
<hr/>	
Range of Incentive Effectiveness (RIE) % of Target Cost	
Cost at Maximum Fee:	#VALUE! #VALUE!
Cost at Minimum Fee:	#VALUE! #VALUE!
<hr/>	
Final Actual Audited Allowable Cost:	
Final Contractor Fee:	
Final Contract Amount:	
Final Contractor Fee %:	



Enter your analysis notes here.

Analyst Notes



CPIF Problem Using Grapher

CPI with: Target Cost \$14,500,000; Target Fee \$942,500; Min Fee \$290,000; Max Fee \$1,160,000. Share 80/20 Under & 90/10 Over.

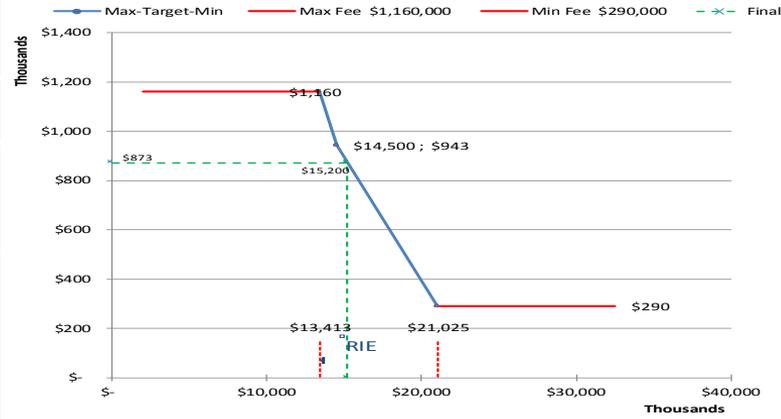
Target Cost		\$	14,500,000
Target Fee %/\$	6.50%	\$	942,500
Total Initial Funding Target		\$	15,442,500
Minimum Fee %/\$	2.00%	\$	290,000
Maximum Fee %/\$	8.00%	\$	1,160,000

Assigned Shares		Govt / Ktr
Under Target	80.0%	20.0%
Over Target	90.0%	10.0%

Calculated Shares		Cost	Fee
Optimistic			
Pessimistic			
		Govt / Ktr	
Under Target		/	
Over Target		/	

Range of Incentive Effectiveness (RIE)	% of Target Cost
Cost at Maximum Fee:	\$ 13,412,500 93%
Cost at Minimum Fee:	\$ 21,025,000 145%

Final Actual Audited Allowable Cost:	\$	15,200,000
Final Contractor Fee:	\$	872,500
Final Contract Amount:	\$	16,072,500
Final Contractor Fee %:		5.74%



Enter your analysis notes here.

Analyst Notes