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Department of the Navy

Probability of Program Success (PoPS)

Presented to DODCAS DON Service Breakout



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Office of the Deputy Assistant Secretary of the Navy (Cost and Economics)

19 February 2010

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Gate Review Core and Program Health

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Gate 5 (RFP)	Membership	Entrance Criteria	Goals/Exit Criteria	Briefing Content
<p>Purpose: RFP Approval and MS B PCM (if applicable), Assess Affordability</p> <p>Briefer: PM</p>	<p>Chair: ASN(RD&A)</p> <p>Principal: YCN0/ACMC, ASN(FM&C), H3ON, N8/DC, P&R/DC, CD&I, N1/DC, NARA, N2/N4, N3/N5/DC, FP40, N4/DC, I&L, DON CIO, PDASN, WE Lead &/or USFF/M&RFOR, SYSOCM, FEO/DIRSFP</p> <p>As required: CMR, DC, Avn</p> <p>Advisory: ASN(RD&A)CHSEMS, DASHs, N90, N81, N82, N81D, N81I, USFF(N8), H3MC(CL, PA&E), CGC, DASN(FMB), DASN(C&E), SYSOCM Cost Director, Resource Sponsor, DASHIPG, OPFA, COTF/MOOTEA</p>	<ol style="list-style-type: none"> 1. Approved SIS and Technical Data Package 2. Approved Acquisition Strategy 3. Completed Cost Review Board 4. RFP has been reviewed by the Source Selection Authority (SSA) and reviewed by principal and advisory members/staffs 5. Approved IEMP 6. Approved alternate Live Fire Test and Evaluation (LFT&E) plan and an approved LFT&E waiver from full up testing 7. Completed Service review of Life Cycle Sustainment Plan 	<ol style="list-style-type: none"> 1. Approval for RFP release, and the next acquisition event, as authorized by the Acquisition Strategy 2. Authorization to proceed to Milestone B DAB or approval of Milestone B if MDA is ASN (RD&A) 3. Approve AFB and Full Funding Certification for MS-B 4. Acknowledgement of CSB recommended capability changes. Approval to proceed to RSB/MROC, or CNO/CMC, for assessment and Service approval 5. Satisfactory review of Program Health 	<ol style="list-style-type: none"> 1. Review capability and threat 2. Acquisition Strategy 3. Program Schedule 4. RFP content and issues 5. All critical data deliverables and related intellectual property right issues addressed 6. Demonstration that financial, logistics, and Procurement functions have agreement on the appropriate and compliant level of Acquisition detail 7. MS-B SCP, assumptions, and cost Curves by appropriation 8. Cost drivers by phase and by KR include specific cost reduction strategies 9. TOC Planning 10. Cost arrayed in accordance with NCCA policy (i.e. MIL HBK 881 and OSD CARS protocols) 11. ILA results and Life Cycle Sustainment Plan 12. Updated assessment of doctrine, organization, training, materiel, leadership & education, personnel, & facilities (DOTMLSP) change requests 13. Job Task Analysis, Front End Analysis, Final Training System Plan, and Manpower Estimate 14. Summarized results of CDR (if applicable) 15. Environmental issues/impacts 16. Review the overall Test and Evaluation program and results of key test events 17. Interdependencies 18. Configuration Steering Board (CSB) 20. Program Health

= "Briefing slides"
ACAT I

"Core" = Detailed information germane to the Gate Decision

- Will be included in SECNAVINST update

"PoPS" = Holistic view of overall program health and readiness to proceed

- Used during Gate Reviews and anytime Program Health is discussed

= "Metrics and R/Y/G"
All ACATs



Gate 5 RFP

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Gate 5 (RFP)	Membership	Entrance Criteria	Goals/Exit Criteria	Briefing Content
<p><u>Purpose:</u> RFP Approval and MS B PDM (if applicable), Assess Affordability</p> <p><u>Briefer:</u> PM</p>	<p><u>Chair:</u> ASN (RD&A)</p> <p><u>Principal:</u> VCNO/ACMC, ASN (FM&C), NOON, N8/DC, P&R/DC, N1/DC, M&RA, N2/N3/N5/DC, PP&O, N4/DC, I&L, DON CIO, PDASN, WE Lead &/or USFF/MARFOR, SYSCOM, EEO/DIRSSP</p> <p><u>As required:</u> CNR, DC, Avn</p> <p><u>Advisory:</u> ASN (RD&A) CHSENG, DASNs, N80, N81, N82, N81D, N091, USFF (N8), HQMC (CL, PA&E), OGC, DASN (EMB), DASN (C&E)</p>	<p>1. Approved SDS and Technical Data Package</p> <p>2. Approved Acquisition Strategy</p> <p>3. Completed CRB</p> <p>4. RFP has been reviewed by the Source Selection Authority and reviewed by principal advisory members/st</p> <p>5. Approved alternate Live Fire Test and Evaluation (LFT&E) plan and an approved LFT&E waiver from full up testing</p> <p>7. Completed Service review of Life Cycle Sustainment Plan</p>	<p>1. Approval for RFP release, and the next acquisition event, as authorized by the Acquisition Strategy</p> <p>2. Authorization to proceed to Milestone B or approval of Milestone B if MDA is ASN (RD&A)</p> <p>3. Approved APB and Full Funding Cert for MS-B.</p> <p>Approval to proceed to R3E/MROC, or CNO/CMC, for assessment and Service approval</p> <p>5. Satisfactory review of Program Health</p>	<p>1. Review capability and threat</p> <p>2. Acquisition Strategy</p> <p>3. Program Schedule</p> <p>4. RFP content and issues</p> <p>5. All critical data deliverables and related intellectual property right issues addressed</p> <p>6. Demonstration that financial, logistics, and the Acq</p> <p>7. SCP, assumptions, cost risks, S-Curves</p> <p>8. Cost drivers by phase and by KPP/KSA; cost reduction strategies.</p> <p>12. Updated assessment of doctrine, organization, training, materiel, leadership & education, personnel, & facilities (DOTMLPF) change requests</p> <p>13. Job Task Analysis, Front End Analysis, Final Training System Plan, and Manpower Estimate</p> <p>14. Summarized results of CDR (if applicable)</p> <p>15. Environmental issues/impacts</p> <p>16. Review the overall Test and Evaluation program and results of key test events</p> <p>17. Interdependencies</p> <p>18. Configuration Steering Board (CSB)</p> <p>19. Program Risk</p> <p>20. Program Health</p>

**DASN (C&E)
SYSCOM Cost Dir**



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Service Cost Position

(\$ in Millions / Then Year)	Prior Years	Current Year	FYDP Yr 1	FYDP Yr 2	FYDP Yr 3	FYDP Yr 4	FYDP Yr 5	FYDP Yr 6	FYDP Yr 1-6	To Comp	Total
RDT&E											
Current \$ (PB 08)	5.0	1.0	2.0	3.0	5.0	6.0	7.0	8.0	29.0	10.0	47.0
Required \$	0.0	1.0	2.0	2.0	2.0	3.0	4.0	5.0	16.0	9.0	28.0
Delta \$ (Current - Required)	5.0	0.0	0.0	1.0	3.0	3.0	3.0	3.0	13.0	1.0	19.0
PROCUREMENT											
Current \$ (PB 08)	5.0	1.0	2.0	3.0	5.0	6.0	7.0	8.0	29.0	10.0	47.0
Required \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.0
Delta \$ (Current - Required)	5.0	1.0	2.0	3.0	5.0	6.0	7.0	8.0	29.0	1.0	38.0
O&M											
Current \$ (PB 08)	2.0	3.0	4.0	5.0	7.0	8.0	9.0	10.0	39.0	5.0	53.0
Required \$	1.0	3.0	5.0	2.0	9.0	2.0	6.0	6.0	25.0	2.0	36.0
Delta \$ (Current - Required)	1.0	0.0	(1.0)	3.0	(2.0)	6.0	3.0	4.0	14.0	3.0	17.0
MPN											
Current \$ (PB 08)	4.0	5.0	6.0	7.0	9.0	10.0	11.0	12.0	49.0	15.0	79.0
Required \$	5.0	6.0	0.0	6.0	11.0	14.0	12.0	14.0	57.0	17.0	85.0
Delta \$ (Current - Required)	(1.0)	(1.0)	6.0	1.0	(2.0)	(4.0)	(1.0)	(2.0)	(8.0)	(2.0)	(6.0)
MILCON											
Current \$ (PB 08)	2.0	3.0	4.0	5.0	7.0	8.0	9.0	10.0	39.0	20.0	68.0
Required \$	3.0	4.0	5.0	6.0	4.0	5.0	6.0	7.0	28.0	15.0	55.0
Delta \$ (Current - Required)	(1.0)	(1.0)	(1.0)	(1.0)	3.0	3.0	3.0	3.0	11.0	5.0	13.0
TOTAL											
Current \$ (PB 08)	18.0	13.0	18.0	23.0	33.0	38.0	43.0	48.0	185.0	60.0	294.0
Required \$	9.0	14.0	12.0	16.0	26.0	24.0	28.0	32.0	126.0	52.0	213.0
TOC Cap \$	20.0	22.0	23.0	25.0	35.0	38.0	43.0	48.0	213.0	60.0	527.0
Delta \$ (Current - Required)	18.0	13.0	18.0	23.0	33.0	38.0	43.0	48.0	185.0	60.0	294.0
Delta \$ (TOC Cap - Required)	9.0	14.0	12.0	16.0	26.0	24.0	28.0	32.0	126.0	52.0	213.0
Delta \$ (TOC Cap - Current)	2.0	9.0	5.0	2.0	2.0	0.0	0.0	0.0	28.0	0.0	233.0
QUANTITIES											
Current (PB 08)	31	25	34	43	61	70	79	88	341	0	431
Required Qty	18	27	22	30	50	45	52	59	236	0	303
Delta Qty (Current - Required)	13	(2)	12	13	11	25	27	29	105	0	128

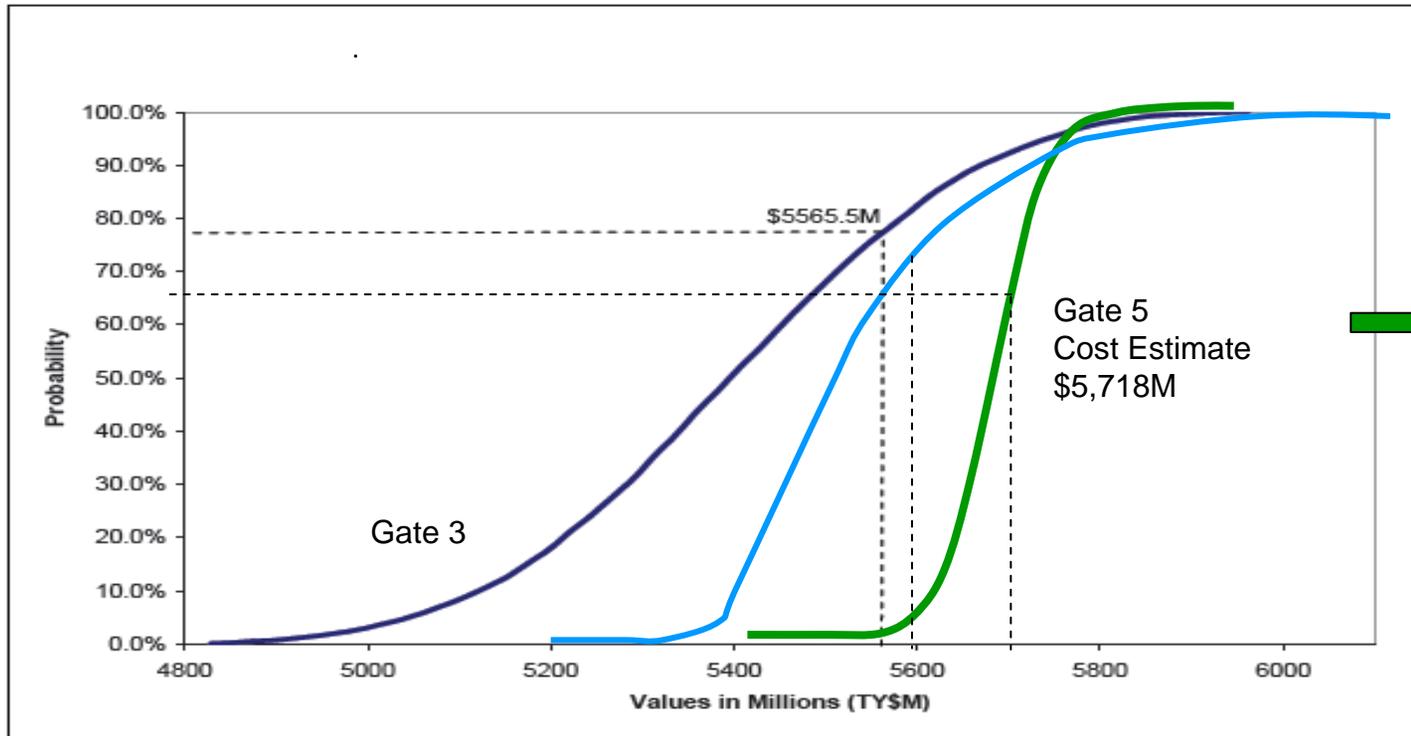
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Program Planning / Execution

COST ESTIMATING

S - Curve RDT&E



% tile	SM
90%	\$5661M
80%	\$5592M
70%	\$5522M
60%	\$5453M
50%	\$5406M
40%	\$5337M
30%	\$5291M
20%	\$5221M
10%	\$5129M

Cost Estimate Completed by:

Notes: Any pertinent information that cannot be readily gathered from the data table above can be included in this text box. It provides an easy method of conveying more details than the data table may allow.

	CV	CI	
Gate 3 (Dec 07)	32.4%	78%	—
Gate 4 (Apr 09)	25.9%	71%	—
Gate 5 (May 10)	17.4%	65%	—



Total Ownership Cost Drivers

PROGRAM NAME
GATE 6 Pre FRP DR (CORE)
DATE UPDATED

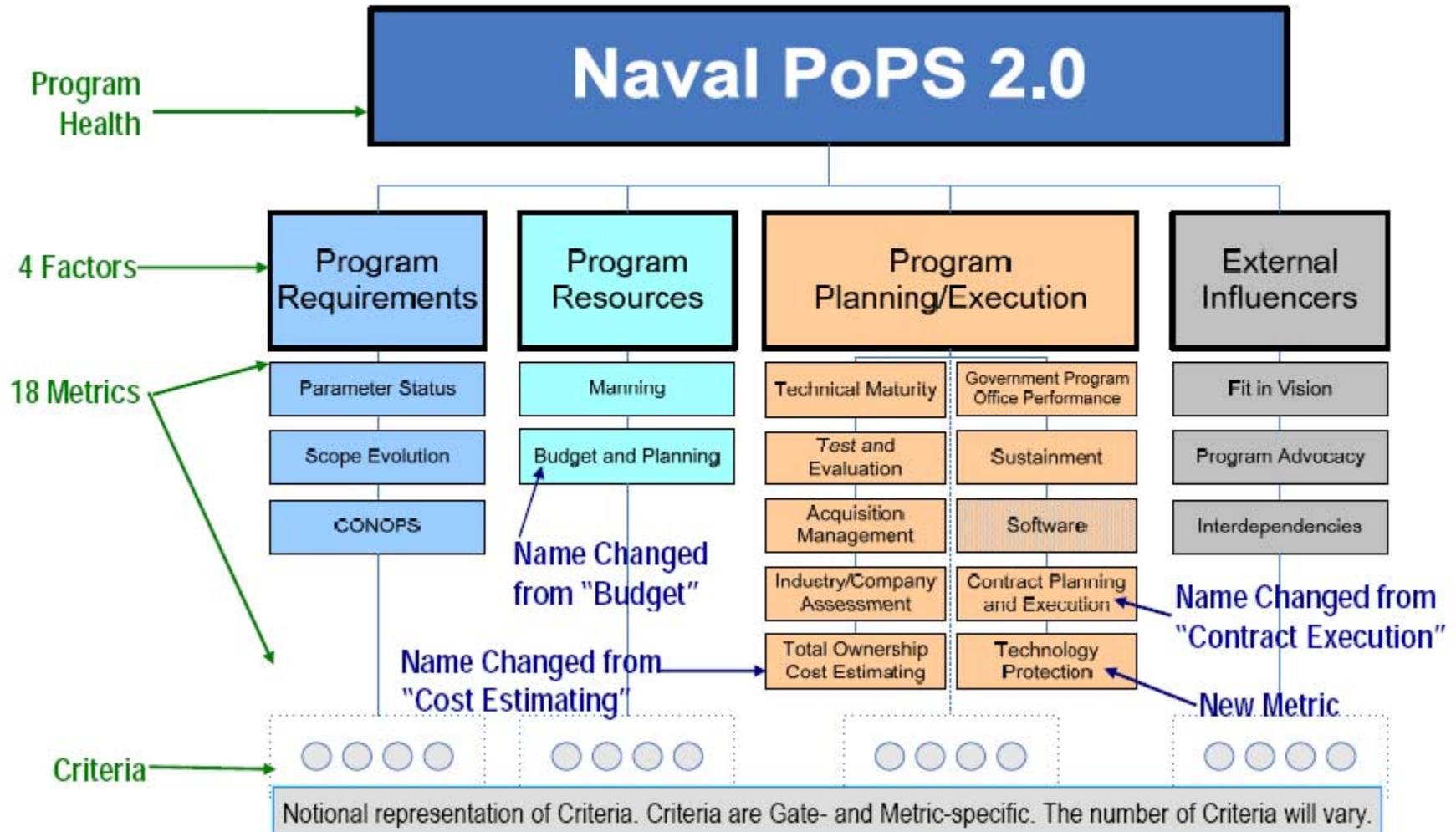
- Discuss Significant Cost Drivers
 - Prioritize and highlight drivers that are most sensitive to cause cost changes
 - Highlight drivers which are directly KPP-related cost drivers
 - Cost drivers by phase
- Identify Reduction Plan for each Cost Driver
 - Planned trade studies
 - Acquisition strategies
 - Others



Naval PoPS v2.0

Gates 1 – 6 Sufficiency (Pre FRP DR)

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PoPS v2.0 Scoring Methodology

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- Refined Criteria statements and responses to reduce subjectivity and prevent misinterpretation
- Metric, Factor and Program color thresholds made more stringent to address "sea of green" concern
 - Increased Green to $\geq 90\%$ (vice $\geq 80\%$)
 - Reduced Red criteria to 30% (vice 33%)

	<i>PoPS v1</i>	<i>PoPS v2.0</i>
Metric, Factor, & Program	$\geq 80\%$	$\geq 90\%$
	$\geq 60 - < 80\%$	$\geq 66 - < 90\%$
	$< 60\%$	$< 66\%$
Criteria Scoring	100%	100%
	66%	66%
	33%	30%

 +
  =
 

 1 Green Criteria + 1 Red Criteria = Yellow Metric

 +
  =
 

 1 Green Criteria + 1 Red Criteria = Red Metric



Naval PoPS v2.0 Factor and Metric Level Maximum Scores

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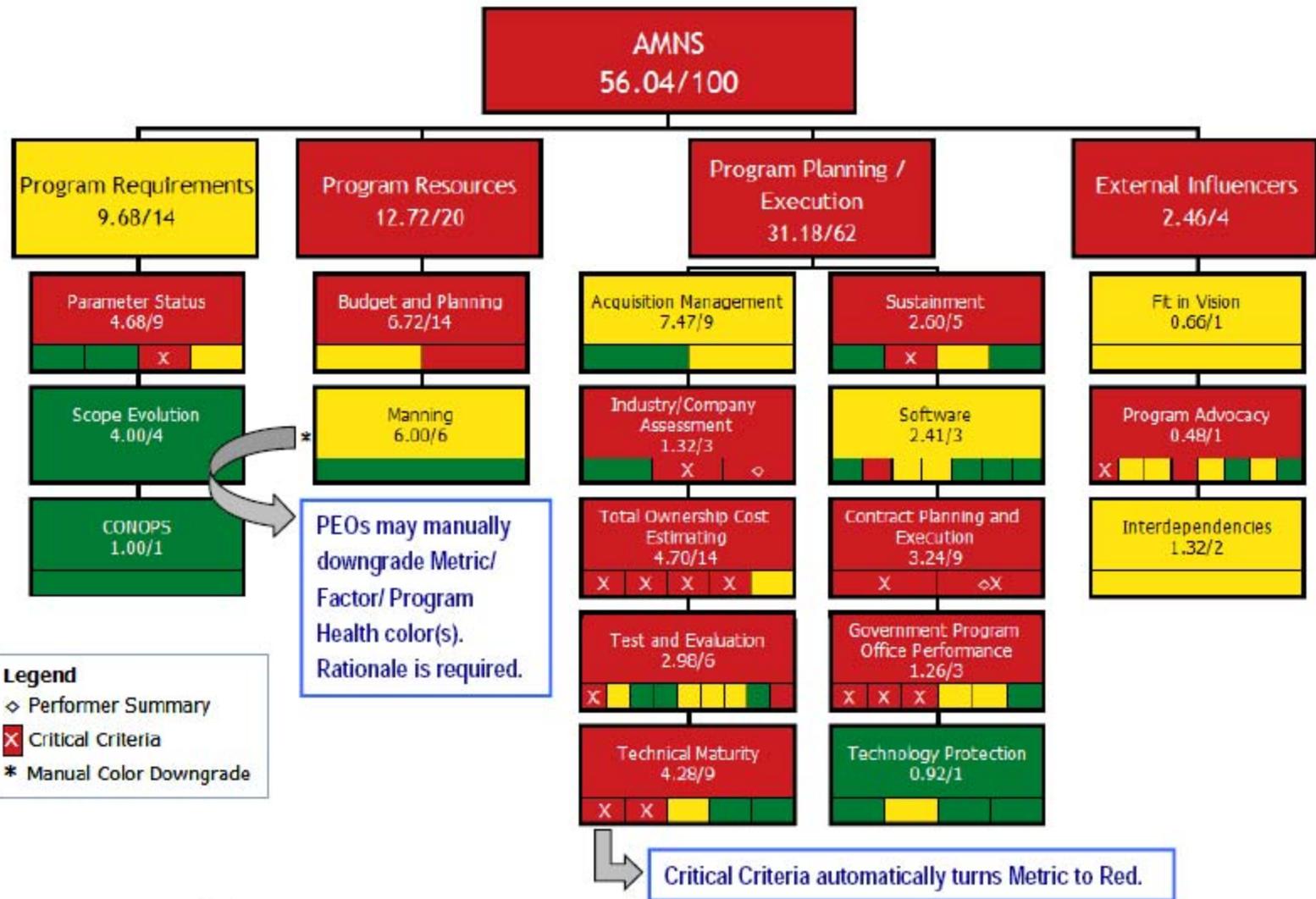
FACTOR Maximum Scores	GATE 1 ICD	GATE 2 AoA	GATE 3 CDD/ CONOPS	GATE 4 SDS	GATE 5 RFP	GATE 6			
						Post IBR	Post CDR	CPD	Pre FRP DR
Program Requirements	31	35	36	22	14	13	13	12	12
Program Resources	17	17	17	20	20	16	15	14	14
Program Planning/Execution	25	36	43	55	62	66	67	68	68
External Influencers	27	12	4	3	4	5	5	6	6
Total Points Maximum	100	100	100	100	100	100	100	100	100
METRIC Maximum Scores	GATE 1 ICD	GATE 2 AoA	GATE 3 CDD/ CONOPS	GATE 4 SDS	GATE 5 RFP	GATE 6			
						Post IBR	Post CDR	CPD	Pre FRP DR
Parameter Status	24	19	17	14	9	9	9	9	9
Scope Evolution	N/A	5	8	6	4	3	3	2	2
CONOPS	7	11	11	2	1	1	1	1	1
Budget and Planning	13	13	13	14	14	10	9	9	9
Manning	4	4	4	6	6	6	6	5	5
Acquisition Management	N/A	3	6	9	9	7	6	6	6
Industry/Company Assessment	N/A	4	3	3	3	3	2	2	2
Total Ownership Cost Estimating	10	10	10	14	14	10	9	8	8
Test and Evaluation	2	2	3	4	6	9	9	9	9
Technical Maturity	6	8	8	9	9	9	9	8	8
Sustainment	6	5	5	5	5	5	6	7	7
Software	N/A	N/A	N/A	3	3	5	7	7	7
Contract Planning/Execution	N/A	2	4	4	9	10	10	10	10
Government Program Office Performance	N/A	1	3	3	3	6	6	8	8
Technology Protection	1	1	1	1	1	2	3	3	3
Fit in Vision	8	5	1	1	1	1	1	1	1
Program Advocacy	13	6	2	1	1	1	1	1	1
Interdependencies	6	1	1	1	2	3	3	4	4
Total Points Maximum	100	100	100	100	100	100	100	100	100

NOTICE THE RELATIVE WEIGHT OF COST EST.



PoPS v2.0 Scoring (Gate 5 Example with all Critical Criteria Red)

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Program Planning / Execution

TOTAL OWNERSHIP COST ESTIMATING

TRNG
GATE 4
JAMES JONES
10/17/2008

Cost Estimating Development and Status

Event	Rating	Rationale
Program Description Information	G	
Cost Data	Y	Relevant similar historical programs existed, but some of that cost data was deemed unreliable for this program.
Cost Estimating Process	G	
Cost Estimate Comparisons	G	
Cost Estimate Measures	G	

Notes: Any pertinent information that cannot be readily gathered from the data table above can be included in this text box. It provides an easy method of conveying more details than the data table may allow.

Legend

Meets Criteria	Partially Meets Criteria	Does Not Meet Criteria
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PoPS 2.0 Criteria – Program Description

COST ESTIMATING

COST ESTIMATING: Stability of program definition and documentation, availability of reliable and relevant cost data, maturity of program technology, use of best practices in cost estimating processes, use of independent cost estimates, and cost estimate metrics.

COST ESTIMATING CRITERIA

Program Description Information. Major program documents (CDD, CONOPS, CARD) have been approved by independent* technical or functional oversight authorities and updated with latest information. Other defining documents for the program (SDS, IMS, Acquisition Strategy) are completed. All documents are mature, stable, and thoroughly detailed to form a basis for the cost estimate, with only few minor changes since completing the previous estimate. Technology of the capability being acquired is adequately mature to allow a reliable cost estimate.

All major documents (CDD, CONOPS, CARD) are independently* approved. All other defining documents (SDS, IMS, Acquisition strategy) are completed. All documents have been updated, received and reviewed by an independent cost agency and approved for completing the cost analysis. Only minor, if any, changes to the program since the last cost estimate. All systems and major subsystems assessed at or above TRL7 (or TRL6 for satellite technologies).

One or more major documents (CDD, CONOPS, CARD) is awaiting independent* approval. One or more defining document has minor gaps or inconsistencies which may affect the cost estimate. Moderate volatility has affected the program since completing the last cost estimate (e.g., >5% but <10% change in quantities, 6 month to 1 year change in schedule/milestones, changes in scope of events, non-KPP/KSA changes in requirements). All systems and major subsystems assessed at or above TRL6.

One or more major documents (CDD, CONOPS, CARD) is incomplete or has not been reviewed by the independent* authority. One or more defining document lacks in significant detail or is incomplete. One or more defining document has not been updated to reflect present program definition. Significant volatility in the program since completing the prior estimate (e.g., >10% change in quantities, >1 year change in milestones/ schedule, significant change in scope of events, or significant modification of KPP/KSA/capability requirements). Any system or subsystem is assessed below TRL6.

“How good is the program description? Tech Maturity?”



PoPS 2.0 Criteria – Cost Data

5.8.2 **Cost Data.** The cost estimating organization(s) had access to an adequate volume of reliable and relevant cost data for creating the estimate. Historical actual cost and technical data (e.g., technical descriptions, drawings, etc.). Historical actual cost and technical data (e.g., technical descriptions, drawings, etc.) existed that was homogenous to the technical and program description of the program. Actual data (e.g., CPRs, BOM, Rate data) for this program and contractor was collected to a sufficient level of detail.

“Is relevant, reliable data available?”



Reliable, relevant cost data was available. Relevant similar historical programs or systems existed, with reliable, valid cost data, which were used to formulate the estimate. Actual contractor or program cost data allowed establishing mathematical significance in the estimate. All elements and aspects of the cost estimate were able to be credibly calculated.



A limited amount of reliable, relevant cost data was available. Relevant similar historical programs or systems existed, but some of that cost data was deemed unreliable for this program. Actual contractor or program cost data allowed establishing mathematical significance in the estimate. All major elements and aspects of the cost estimate were able to be credibly calculated.



Reliable data was not available. Actual program or contractor cost data was incomplete, insufficient, or unreliable. Rate data, BOM, and CPRs were not established or could not be verified to support the estimate. Major elements or aspects of the estimate could not be credibly calculated due to lack of reliable cost data.



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PoPS 2.0 Criteria - Process

5.8.3 **Cost Estimating Process.** The cost estimate was completed with conformance to accepted best practices. All steps of the estimating process were completed: government led cost teams were established and functioning; appropriate estimating methodologies were selected; appropriate cost element structures and cross elements were established; cost and schedule drivers were identified; key technical and programmatic assumptions were established and validated; cost data was collected, analyzed, and normalized; data outliers, trends, and sources were reviewed; the point estimate was time-phased and mathematically checked for errors; risk, uncertainty, and sensitivity analyses were conducted and validated; appropriate internal and external reviews validated the estimate; the estimate was formally and thoroughly documented.

“CE Process, Team, Analysis?”



Cost team led by qualified government cost estimators meets regularly; estimating methodology is appropriate for this phase and for available data; cost element structure reflects all elements of the program's life cycle costs; all cost and schedule drivers are reported in the cost estimate; key technical and programmatic assumptions were verified; cost data was analyzed, normalized and processed; data sources, trends and outliers were reviewed and appropriately considered in the estimate; point estimate contains no mathematical errors or inconsistencies in phasing; risk, uncertainty, and sensitivity analyses were conducted and are sufficiently mature; internal and external reviews were conducted and validated the estimate; independent NCCA and SYSCOM headquarters reviews of the estimate were completed; estimate documentation is complete and detailed.



Cost team is led by government personnel who are not cost estimators, or does not meet regularly; estimating methodology is not appropriate for this phase and for available data; cost element structure reflects key elements of the program's life cycle costs; key technical and programmatic assumptions were verified; cost data was analyzed, normalized and processed; data sources, trends and outliers were reviewed and appropriately considered in the estimate; point estimate contains only minor

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PoPS 2.0 Criteria – Estimate Comparisons

5.8.4 Cost Estimate stability and comparisons. The cost estimate* for the Average Procurement Unit Cost (PAUC), Program Acquisition Unit Cost (PAUC), and each appropriation for the program significantly changed since the last Gate Review, Milestone (MS) Review, or other officially reviewed estimate. Independent Naval Center for Cost Analysis (NCCA) estimate or assessment [Acquisition Category (ACAT) I] confirms the program estimate*.

“Estimate vs ICE? Stable est over time?”

The NCCA (ACAT IC/IA only) and System Command (SYSCOM) Cost Organization estimates* have remained within 5% of the last Gate Review, MS Review, or other officially reviewed estimate, and have not exceeded the MS A estimate by more than 10%. The SYSCOM Cost Organization estimate* is within 5% of the NCCA independent estimate (ACAT IC/IA only). A service cost position** is established and approved.



The NCCA (ACAT IC/IA only) or SYSCOM Cost Organization estimate* has grown by >5% but <15% since the last Gate Review, MS Review, or other officially reviewed estimate, or has exceeded the Milestone A estimate by more than 10% but less than 20%. The SYSCOM Cost Organization estimate* is not within 5% but is within 15% of the NCCA independent estimate (ACAT IC/IA only). A service cost position** is being established but is not approved.



The NCCA (ACAT IC/IA only) or SYSCOM Cost Organization estimate* has grown by >15% since the last Gate Review, MS Review, or other officially reviewed estimate, or has exceeded the MS A estimate by more than 20%. The SYSCOM Cost Organization estimate* is not within 15% of the NCCA independent estimate (ACAT IC/IA only). A service cost position** is not being established, or significant unreconciled differences exist between the NCCA assessment and the SYSCOM cost estimate (ACAT ID only).



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PoPS 2.0 Criteria - Measures

“Assessment of Risk/Uncertainty?”

5.8.5 Cost Estimate measures. Measures of statistical significance validate the credibility of the estimate.



The coefficient of variation of the cumulative distribution function curve (S-curve) of the estimate for each appropriation is greater than 25% and less than 35%.



The coefficient of variation of the cumulative distribution function curve (S-curve) of the estimate for any appropriation is less than 25% but greater than 15% or less than 50% but greater than 35%.



The coefficient of variation of the cumulative distribution function curve (S-curve) of the estimate for any appropriation is less than 15% or greater than 50%.

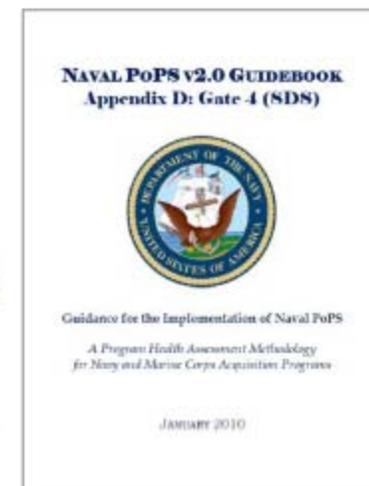
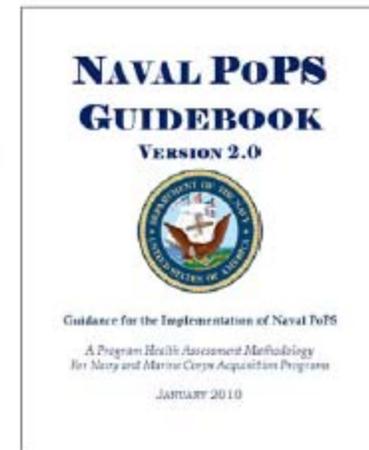
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Naval PoPS v2.0 Guidebook

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- Naval PoPS v2.0 Guidebook (PDF)
 - Overview information on Naval PoPS v2.0 methodology and implementation
- Naval PoPS v2.0 Guidebook: Appendices A - J (one appendix per Gate) (PDF)
 - Criteria section contains the Gate-specific Criteria, organized by Metric
 - Also identifies Critical Criteria and Criteria with N/A option
 - Template section includes mouse-over instructions and notional examples to assist users in developing the Naval PoPS v2.0 PowerPoint Templates
 - Appendix J is currently a placeholder for the new Gate 6 Sustainment
- Naval PoPS v2.0 Guidebook: Appendix K (Database) (PDF)
 - Contains step-by-step instructions on how to use the Naval PoPS v2.0 Database, as well as examples of the scoring algorithms embedded within the database that calculate the Program Health scores and color codes displayed on the Naval PoPS framework
- Naval PoPS v2.0 Guidebook: Appendix L (Acronyms) (PDF)





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PoPS 2.0 Status

- RDA, VCNO, and ACMC joint Policy Memos for implementation
 - Incorporate v2 of Core Criteria into DON 5000.2 update; DON 5000.2 update to be issued by SECNAV
 - Require use of v2 Core Brief Templates and v2 PoPS Criteria and Templates for Gate Reviews and program health assessment
 - Allow 60-day transition when signed
- Gate 6 Sustainment is work in progress

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Contact Information

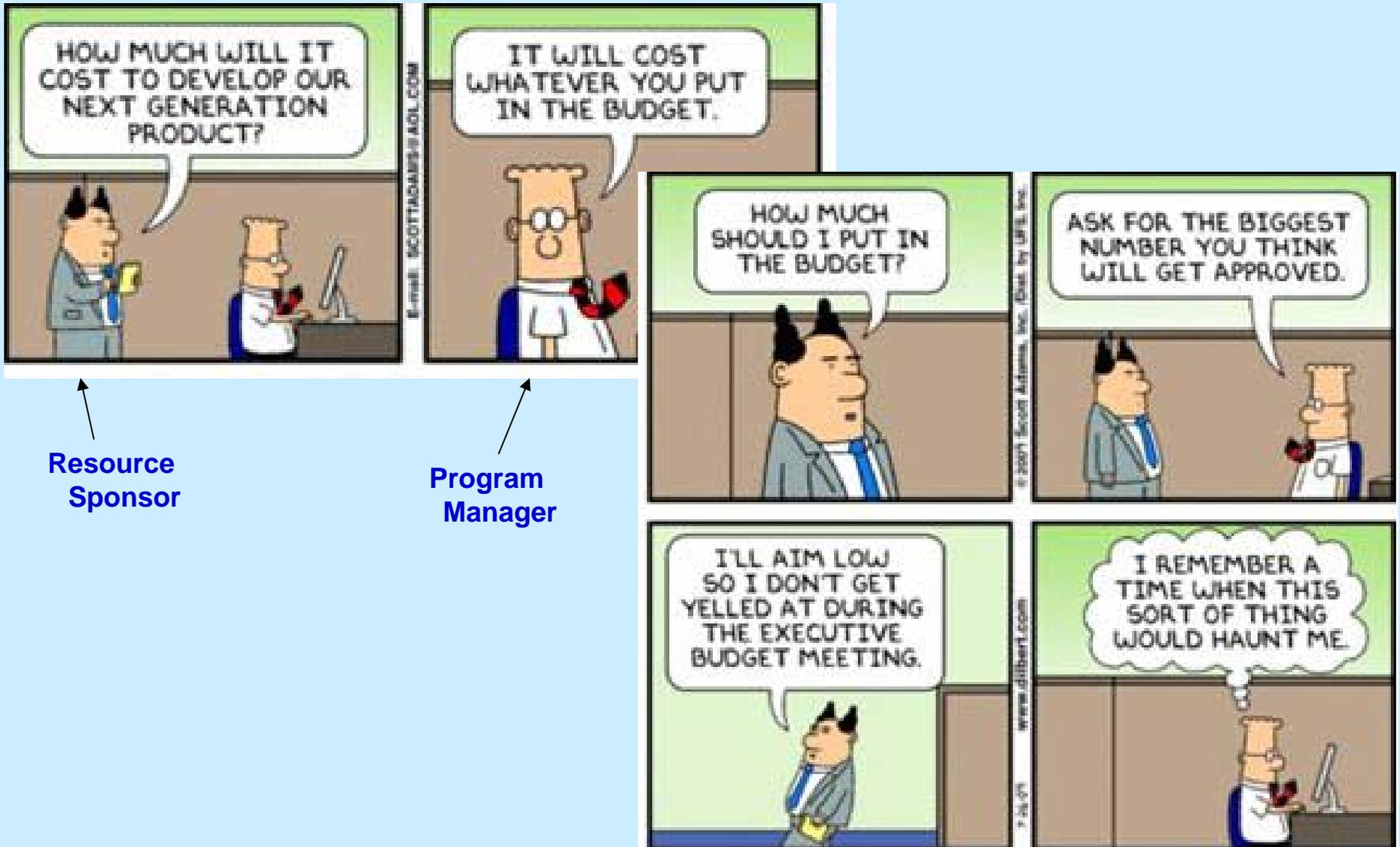
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- **ASN RDA CHSENG**
 - Mike.m.tang@navy.mil, 202-781-2048
 - Ricardo.cabrera@navy.mil, 202-781-1979
- **ASN RDA A&LM - Information System**
 - Katie.cewe@navy.mil, 703-614-0144
- **Booz Allen Hamilton/ASN RDA CHSENG**
 - Thomasson_katherine@bah.com, 571-384-7939
 - Guest_frank@bah.com, 703-412-7673



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Questions??

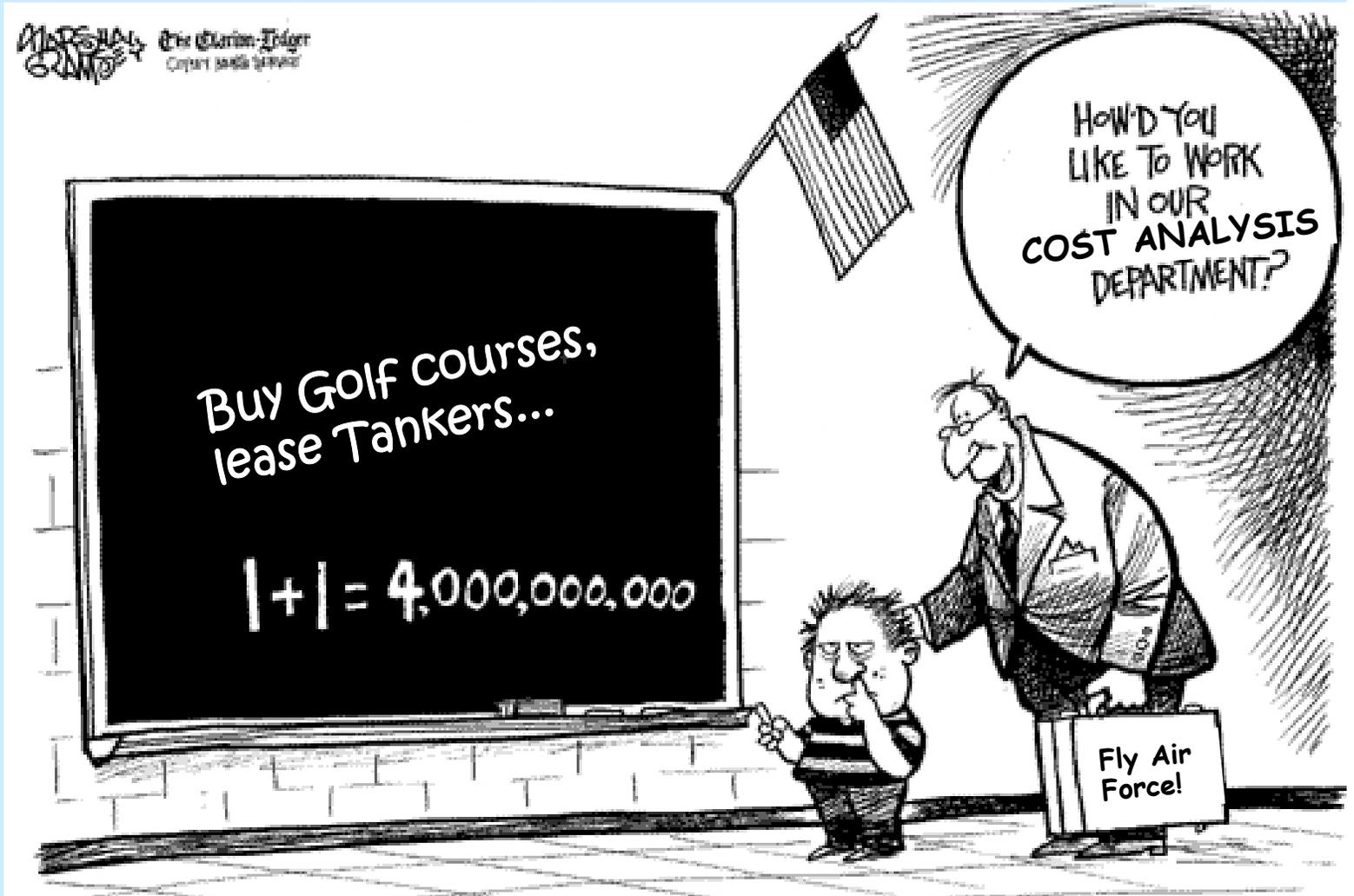


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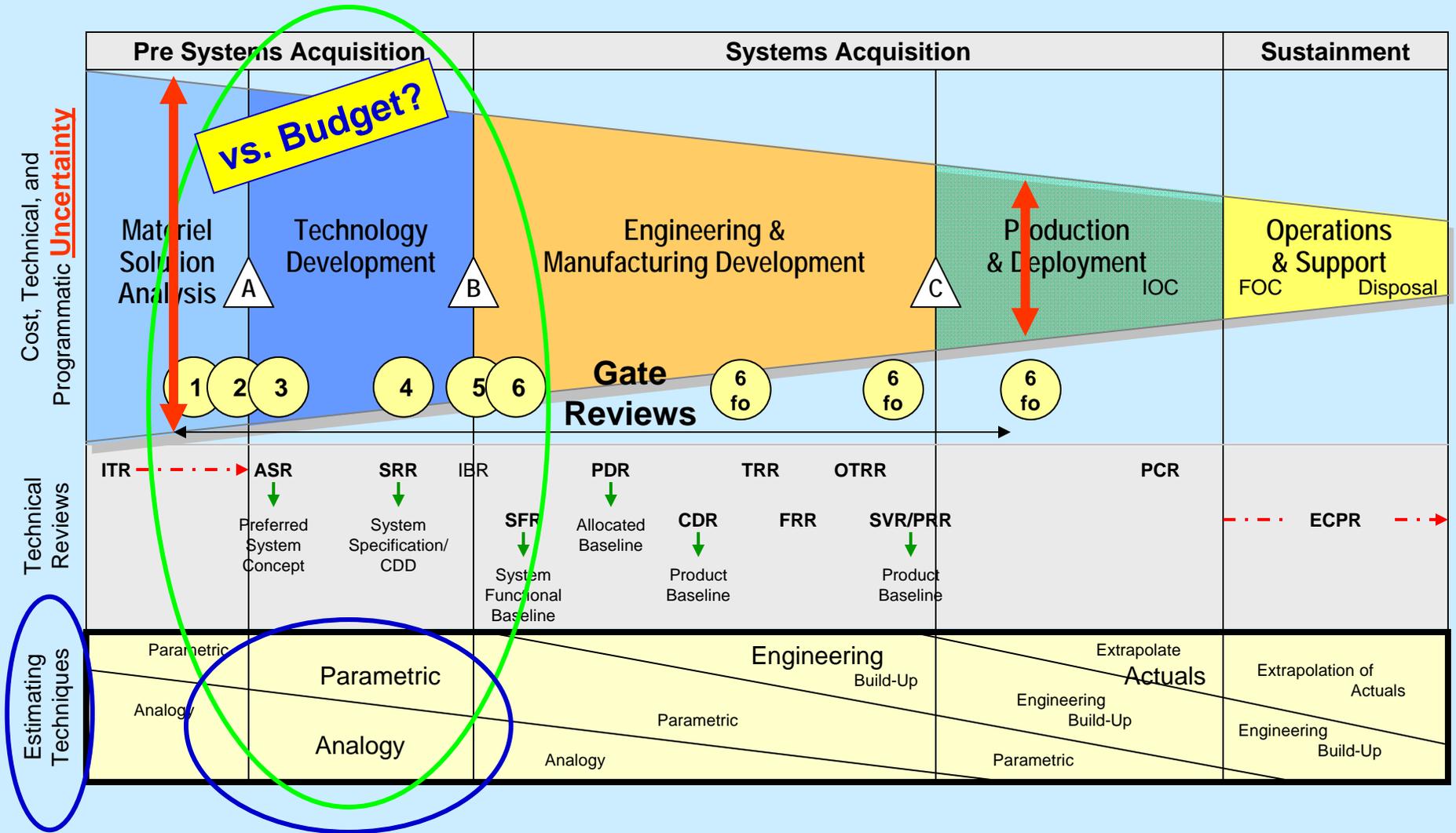
Backups





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Cost Estimate Maturity vs. Gate Reviews



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Pass 1 Gates

Gates 1, 2, and 3

“Requirements” Gates

- Led by CNO or CMC
- Starts prior to Material Development Decision, ends after Gate 3
- Leads to:
 - Approving the ICD
 - Approving AOA guidance
 - Selecting an AOA “optimal” alternative
 - Approving a CDD
 - Developing a CONOPS
 - Approving System Design Specification (SDS) Development Plan

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Pass 2 Gates

Gates 4, 5, and 6

“Acquisition” Gates

- Led by ASN(RDA)
- Starts after Gate 3, ends after Milestone B (initial EMD phase)
- Leads to:
 - Approving the SDS
 - Approving release of the RFP
 - Assessing readiness for production
 - Assessing sufficiency of the EVMS PMB
 - Assessing the IBR
- Follow-on Gate 6’s pre- and post-Milestone C and FRP DR
 - Serve as Configuration Steering Boards and review program health

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Recommended Focus Areas from Senior Analysis Team, Jan 2008

- Look at POPS reporting and cost estimate presentation to leadership
 - Fix those “insight” disconnects for a more meaningful indicator
- Review “S-curve” understanding and usage
 - Gain a better view of the potential upper-range bounds of cost risk
- Add “technical/programmatic” non-advocate reviews
 - Remove some of the “optimism” from program definitions
- Improve SE process and early acquisition phase flow
 - Attain a higher maturity before committing to a program
- Align budgeting and programming expectations
 - Reduce the risk of “cost growth surprises” – funding and budget policy?

Addressed by Cost Estimating team

Addressed by Chief SYSENG team

TBD

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Former POPS 1.0 Cost Estimating Criteria

METRIC	CRITERIA	<u>GATE 1</u>	<u>GATE 2</u>	<u>GATE 3</u>	<u>GATE 4</u>	<u>GATE 5</u>	<u>GATE 6</u>
C O S T E S T	Plan to conduct cost estimates has been developed; all stakeholders actively involved	GREEN - Plan for cost estimates have been developed; all stakeholders involved					
		YELLOW - Plan for cost estimates are being developed; key stakeholders involved					
		RED - Plan for cost estimates NOT been developed					
	Cost estimate range to address potential capability alt. have been developed and dropped	GREEN - developed and approved					
A T T I N G	Initial independent CE has been accomplished by an org. outside the PORC. Less than 10% diff. btwn the P.O. and initial ind.cost estimator. Diff. in assumptions and methodologies have been resolved.	GREEN - ahead of schedule					
		YELLOW - behind schedule but not affecting planning/execution					
		RED - behind sched. & affecting planning/execution					
	Cost Estimate confidence level is about 75%		>75%	>80%	>85%	>90%	>95%
		25-75%	50-80%	60-85%	75-90%	80-95%	
		<25%	<50%	<60%	<75%	<80%	
			difference. All diff. have been resolved				
			YELLOW: 10-30% difference. All diff. are resolvable				
			RED: >30% difference. All diff are NOT resolvable	RED: >30% difference. All diff are NOT resolvable	RED: >30% difference. All diff are NOT resolvable	RED: >30% difference. All diff are NOT resolvable	

“Is there a Plan to get an Estimate?”

“Confidence Level” is NOT the S-Curve C.I. – It is PM’s subjective

“Are CE activities on-schedule?”

78 Criteria had “cost estimating” linkage (across all Gates); only 19 of those were captured in the Cost Estimating Metric.

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POPS 2.0 Approved Cost Estimating Criteria

METRIC	CRITERIA	GATE 1 ICD	GATE 2 AOA	GATE 3 CDD	GATE 4 SDS	GATE 5 MS-B	GATE 6 IBR	GATE 6 CDR	GATE 6 MS-C	GATE 6 FRP	GATE 6/7 SUS
C O S T E S T I M A T I N G	Program Description/ Technical Maturity			Done complete, updated, being approved; independent review; minor changes.	Done complete, updated, being approved; independent review; minor changes; TR1 E.	Done complete, updated, approved; independent review; minor changes; TR1 F.					
						Done awaiting independent					
	Cost Data			Reliable, relevant data available; historical data; actual data; all used elements calculated.	Reliable, relevant data available; historical data; actual data; all used elements calculated.	Reliable, relevant data available; historical data; actual data; all used elements calculated.					
				Limited data, or some unreliable data; all major used elements calculated.							
				Reliable data not available; actual data incomplete, unreliable, or not cell-referenced; calculated major used elements.	used elements.	used elements.					
	Estimating Process			Controlled team lead; all used drivers, assumptions, data, CES, methodology, and gate verification; independent review; documented.	Controlled team lead; all used drivers, assumptions, data, CES, methodology, and gate verification; independent review; documented.	Controlled team lead; all used drivers, assumptions, data, CES, methodology, and gate verification; independent review; documented.					
				Non-controlled team lead; minor walk/playing or documented issues; risk or availability analysis completed.	Non-controlled team lead; minor walk/playing or documented issues; risk or availability analysis completed.	Non-controlled team lead; minor walk/playing or documented issues; risk or availability analysis completed.					
				Controlled team; missing and drivers; assumptions, methodology, and gate verification; documented problems.	Controlled team; drivers; assumptions, methodology, and gate verification; documented problems.	Controlled team; drivers; assumptions, methodology, and gate verification; documented problems.					
	Metrics, Comparison to ICE and prior estimate				SVSCOM and ICE within 5% of total est; ICE within 5% of SVSCOM; SCP in work.	SVSCOM and ICE within 5% of total est; ICE within 5% of SVSCOM.					
					SVSCOM and ICE 5-15% of total est.	SVSCOM and ICE 5-15% of total est.					
	S-Curve shape				5-Source 25-35% COV.	5-Source 25-35% COV.					
					5-Source 15-25 or 35-55% COV.	5-Source 15-25 or 35-55% COV.					
					5-Source <15% or >55% COV.	5-Source <15% or >55% COV.					

“How good is the program description? Tech Maturity?”

“Is relevant, reliable data available?”

“Best Practices process used?”

“Estimate vs ICE? Stable est over time?”

“S-curve shape?”

New recommended criteria provide insight into the cost estimate.

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