

Running an SEPG – How SSC San Diego Operates its SEPG

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March 8, 2006

Report Documentation Page

*Form Approved
OMB No. 0704-0188*

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1. REPORT DATE 08 MAR 2006	2. REPORT TYPE	3. DATES COVERED 00-00-2006 to 00-00-2006			
4. TITLE AND SUBTITLE Running an SEPG -How SSC San Diego Operates its SEPG		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) SPAWAR Systems Center (SSC San Diego),Systems Engineering Process Office (SEPO),San Diego,CA,92152		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 21	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

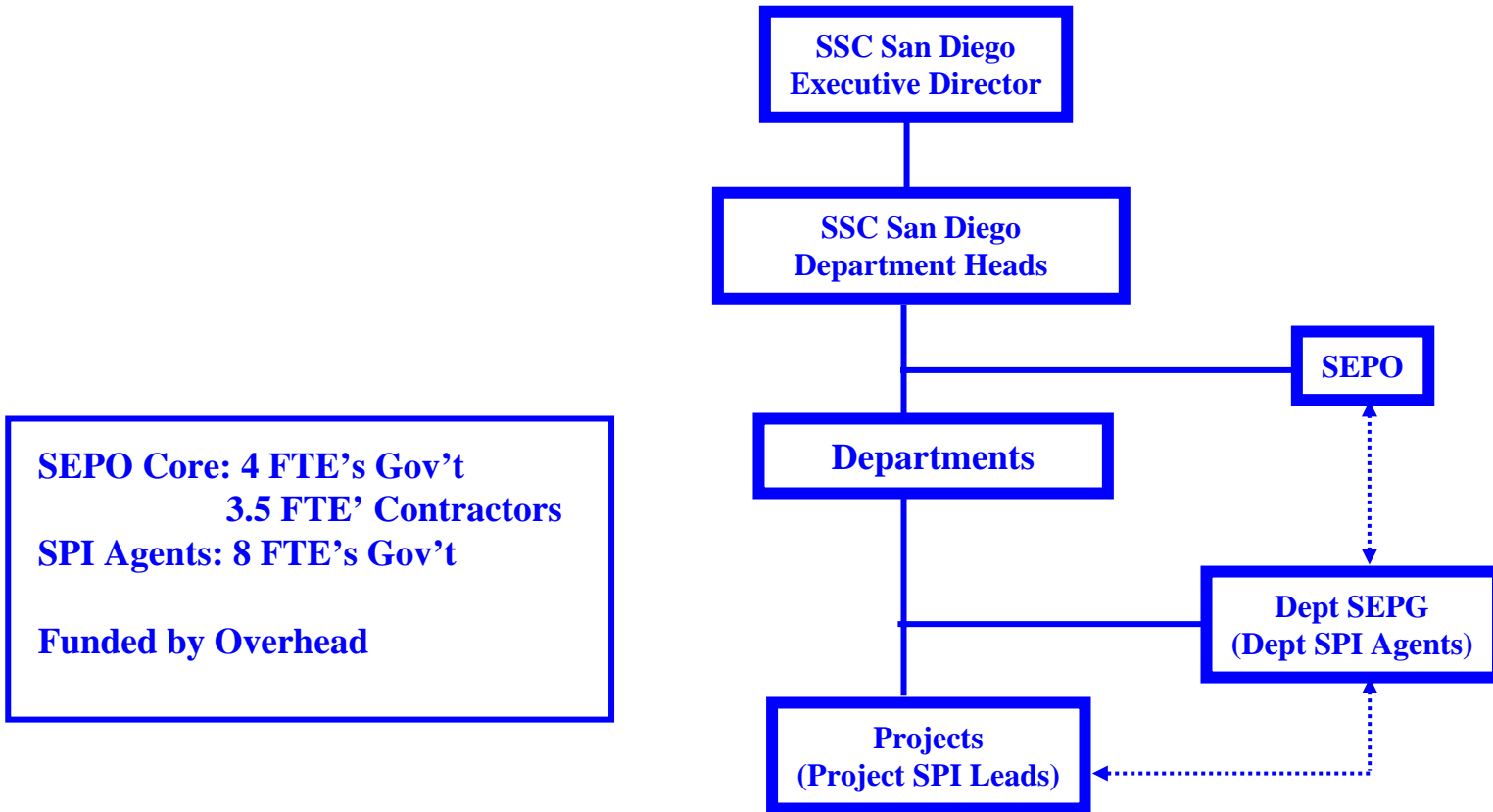
Objectives of the Briefing

- Provide an overview of SSC San Diego and SEPO
- Provide an overview of how SSC San Diego operates its SEPG
- Discuss some specific practices and procedures used by SEPO
- Summarize lessons learned

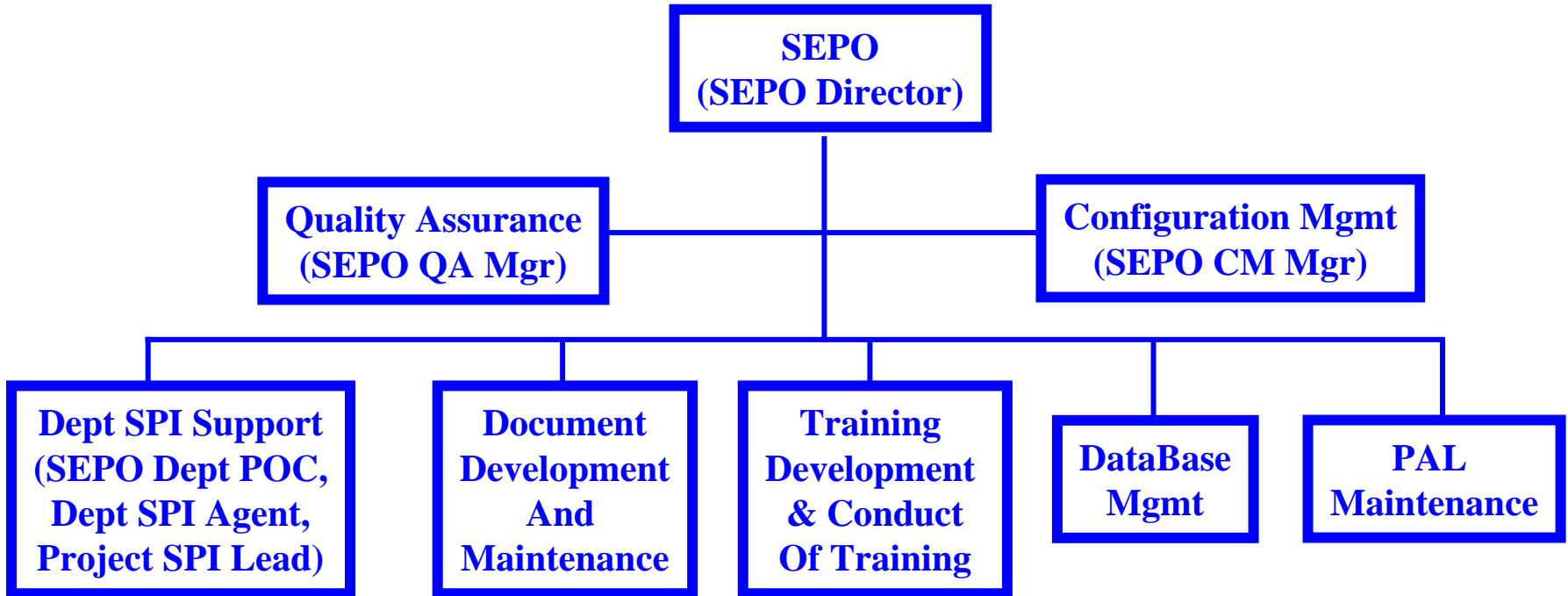
Space and Naval Warfare Systems Center San Diego (SSC San Diego)

- **Mission:** to be the Navy's RDT&E, engineering and fleet support center for command and control, communications, ocean surveillance, and the integration of those systems which overarch multi-platforms
- **Vision:** to be the nation's pre-eminent provider of integrated C4ISR solutions for warrior information dominance
- ~3,500 civilians, 70 military, and several thousand contractors
- Actual funding for FY05 was ~\$1.4 billion
- Attained SW-CMM Level 3 in Oct 2000; re-assessed at Level 3 in Aug 2003; transitioning to CMMI; two projects have attained CMMI Level 2

SSC San Diego Process Improvement Organization

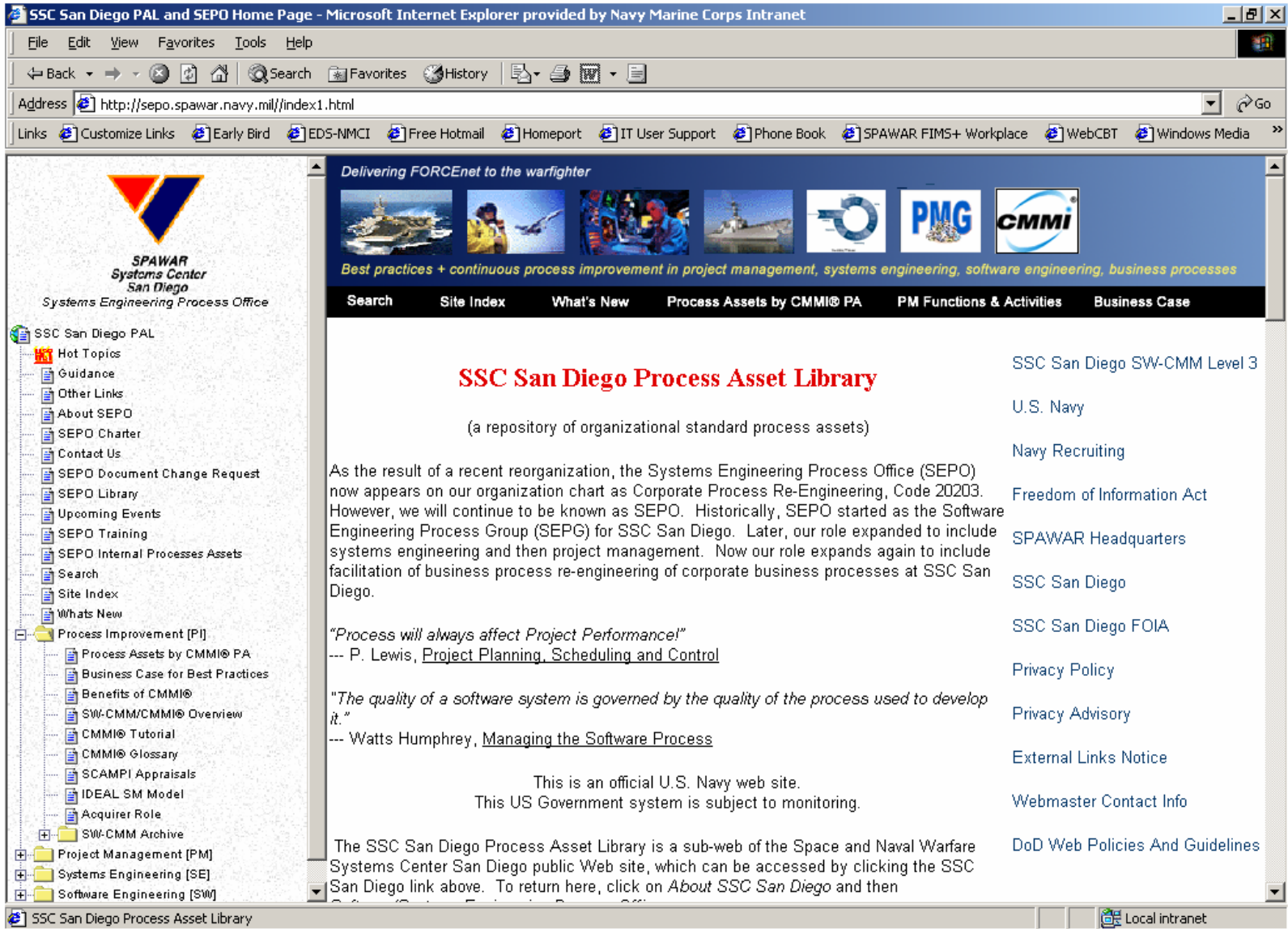


SEPO Organization and Work Distribution



SEPO Products and Services

- **Maintains SSC San Diego's Process Asset Library (PAL): Comprehensive web page of process improvement material: at <http://sepo.spawar.navy.mil/>**
- **Facilitates process improvement across all of SSC San Diego**
- **Conducts training courses**
- **Assists with internal appraisals on projects to determine best practices and areas for improvement**
- **Maintains Software Community Alias: Email alias with over 800 members for announcements, requests for assistance**
- **Facilitates Systems/Software Process Improvement Working Group (SPIWG): periodic meetings, seminars, lectures, debates, demos about systems engineering and process improvement issues**
- **Maintains SEPO Library: process improvement related books, guidelines, standards, products, processes, publications, proceedings, articles, videos**
- **Performs Community Liaison: Interface with the process improvement community outside of SSC San Diego, both government and commercial**



SPAWAR Systems Center San Diego
Systems Engineering Process Office

Delivering FORCENet to the warfighter

Best practices + continuous process improvement in project management, systems engineering, software engineering, business processes

Search Site Index What's New Process Assets by CMMI® PA PM Functions & Activities Business Case

SSC San Diego Process Asset Library

(a repository of organizational standard process assets)

As the result of a recent reorganization, the Systems Engineering Process Office (SEPO) now appears on our organization chart as Corporate Process Re-Engineering, Code 20203. However, we will continue to be known as SEPO. Historically, SEPO started as the Software Engineering Process Group (SEPG) for SSC San Diego. Later, our role expanded to include systems engineering and then project management. Now our role expands again to include facilitation of business process re-engineering of corporate business processes at SSC San Diego.

"Process will always affect Project Performance!"
--- P. Lewis, [Project Planning, Scheduling and Control](#)

"The quality of a software system is governed by the quality of the process used to develop it."
--- Watts Humphrey, [Managing the Software Process](#)

This is an official U.S. Navy web site.
This US Government system is subject to monitoring.

The SSC San Diego Process Asset Library is a sub-web of the Space and Naval Warfare Systems Center San Diego public Web site, which can be accessed by clicking the SSC San Diego link above. To return here, click on *About SSC San Diego* and then

- SSC San Diego SW-CMM Level 3
- U.S. Navy
- Navy Recruiting
- Freedom of Information Act
- SPAWAR Headquarters
- SSC San Diego
- SSC San Diego FOIA
- Privacy Policy
- Privacy Advisory
- External Links Notice
- Webmaster Contact Info
- DoD Web Policies And Guidelines

Example Processes and Procedures

- Project Planning Process
- Project Management Plan
- Tracking Procedure
 - Weekly highlights and labor metrics (shared with all team members)
- Configuration Management Process
- Meeting Procedure
- Quality Assurance Plan
- Peer Review Process
- Risk Management Process
- Training Process

Project Planning at SEPO

- **A Project Management Plan (PMP) is used to plan and track tasking (PMP for the SSC San Diego PI Initiative)**
 - **Requirements are gathered using “Work Request” and Document Change Request (DCR) databases**
 - » **“Work Requests” are requests for tasking to be performed by SEPO (e.g new processes; new training courses)**
 - » **Requests can come from the Dept SEPGs, management, projects, and appraisal findings**
 - » **Document Change Requests (DCRs) are requests to fix defects in existing process assets**
 - **Plan is updated at least once a year and as part of re-planning efforts**
 - **MS Project file is created each year**
 - **Procedures are defined for accomplishing work**
 - **Tracking is done using weekly reports and earned value scheme**

Overview of the SEPO Planning Process

- Work Request and DCR DB are reviewed and priority items are added to plan
- Training needs analysis conducted
- Individuals are assigned tasking
- Team members estimate tasking for the year
- Estimates are reviewed
- Tasks are reprioritized based on resource availability, some tasks are deferred if resources are over-allocated
- Mid-year re-planning conducted

SEPO Monitoring and Control

- Use SEPO WBS to track actual effort
- Use a fourth level WBS to capture amount spent on products / services provided and rework
- Review data periodically:
 - Task completion
 - Identify scope creep
 - Manage risks

	A	B	C	D	R	S	T	U	V	W	X	Y
1	Name/Reporting Period:				Stamnas Aug 29 - Sept 1, 2005							
2		Original Estimates	Actuals	2005 Re-Estimates	2005 Cuml	M	T	W	TH	F	Total	2005 Cuml
3	SEPO WBS Hour Totals:	2175.0	1302.0	896.0	1391.0	10.0	10.5	10.0	9.0	0.0	39.5	1430.5
10	3.0 DOCUMENTATION DEVELOPMENT/MAINTENANCE	444.0	313.0	159.0	323.5	0.0	2.5	3.0	9.0	0.0	14.5	338.0
11	3.1 Document Development	324.0	153.5	133.0	156.0	0.0	1.5	3.0	8.0	0.0	12.5	168.5
12	3.1.1 Risk Assessment Checklist		4.0	0.0	4.0							4.0
13	3.1.2 CMMI Mapping to PM Guide (Completed)	40.0	25.0	0.0	25.0							25.0
14	3.1.3 PM Work Process Overview	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	3.1.3.1 Update/Rework/Re-review PM Work Process Overview	10.0			0.0							0.0
16	3.1.3.2 Approve PM Work Process Overview	3.0			0.0							0.0
17	3.1.4 Project Mgmt Guide (Completed)	35.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	12.5
18	3.1.4.1 Update/Rework/Re-review PM Guide	30.0	12.5		12.5							12.5
19	3.1.4.2 Approve PM Guide	5.0			0.0							0.0
20	3.1.5 Project Mgr Guidelines	13.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
21	3.1.5.1 Update/Rework/Re-review PM Guidelines	8.0	2.0		2.0							2.0
22	3.1.5.2 Approve PM Guidelines	5.0			0.0							0.0
23	3.1.6 Project Health & Troubleshooting Handbook (Completed) (SME stays as legacy - update sections 1&2 as companion to PMG, etc)	100.0	42.5		42.5							42.5
24	3.1.7 Project Mgmt Policy for SSC San Diego (Completed)	9.0	1.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5
25	3.1.7.1 Update/Rework/Re-review PM Policy	4.0	1.5		1.5							1.5
26	3.1.7.2 Approve PM Policy	5.0			0.0							0.0
27	3.1.8 SYS/SW Engineering Mgmt (SEM) Policy	15.0	35.0	30.0	35.0	0.0	0.0	3.0	8.0	0.0	11.0	46.0
28	3.1.8.1 Update/Rework/Re-review SEM Policy	10.0	35.0	20.0	35.0							35.0
29	3.1.8.2 Approve SEM Policy	5.0		10.0	0.0			3.0	8.0		11.0	11.0
30	3.1.9 Process Analysis Guide (Completed)	3.0			0.0							0.0
31	3.1.10 Proj Monitoring & Control Process	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	3.1.10.1 Develop Draft Prototype	5.0			0.0							0.0
33	3.1.10.2 Peer Review				0.0							0.0
34	3.1.10.3 Rework				0.0							0.0
35	3.1.10.4 Close				0.0							0.0
36	3.1.11 MS Proj Template for PMG	3.0	2.0	0.0	2.0							2.0
37	3.1.12 MS Proj Template for RBC	3.0	2.0	0.0	2.0							2.0
38	3.1.13 CMMI P103 Matrices	20.0			0.0							0.0

SEPO WBS Hrs 15 Aug-31 Der 05 / 2005 Orig Estimates / 2005 Act

SEPO MS Project File

Microsoft Project

File Edit View Insert Format Tools Project Window Help

Type a question for help

Tasks Resources Track Report

SEPO_WBS_2005_091905

Task Name	Duration	Start	Finish	Pr	Actual Start
1.0 CONTRACTS	260 days?	Sat 1/1/05	Fri 12/30/05		Sat 1/1/05
1.1 Create & Process D.O.'s and oversee Contract	260 days?	Sat 1/1/05	Fri 12/30/05		Sat 1/1/05
2.0 APPRAISALS	259 days?	Mon 1/3/05	Thu 12/29/05		Mon 1/3/05
2.1 Project Appraisals (PMG/CMMI)	259 days?	Mon 1/3/05	Thu 12/29/05		Mon 1/3/05
2.1.1 Preparation	259 days?	Mon 1/3/05	Thu 12/29/05		NA
2.1.2 Conduct	259 days?	Mon 1/3/05	Thu 12/29/05		NA
3.0 Documentation Development/Maintenance	629 days?	Sat 1/3/04	Thu 6/1/06		Sat 1/3/04
3.1 Document Development	520 days?	Sat 1/3/04	Fri 12/30/05		Sat 1/3/04
3.1.1 Risk Assessment Checklist	43 days?	Fri 7/1/05	Tue 8/30/05		NA
3.1.2 CMMI Mapping to PMBOK/PM Guide	372 days?	Mon 2/16/04	Tue 7/19/05		Mon 2/16/04
3.1.3 PM Work Process Overview	98 days?	Fri 7/1/05	Tue 11/15/05		Fri 7/1/05
3.1.3.1 Update/Rework/Re-review PM Work Processes Overview	45 days?	Fri 7/1/05	Thu 9/1/05		Fri 7/1/05
3.1.3.2 Approve PM Work Processes Overview	67 days	Mon 8/15/05	Tue 11/15/05		NA
3.1.4 Project Management Guide	229 days?	Thu 2/19/04	Tue 1/4/05		Thu 2/19/04
3.1.5 Project Manager Guidelines	171 days?	Sun 5/1/05	Mon 12/26/05		Sun 5/1/05
3.1.5.1 Update/Rework/Re-review PM Guidelines	98.5 days?	Sun 5/1/05	Wed 11/30/05		Sun 5/1/05
3.1.5.2 Approve PM Job Guidelines	18 days?	Thu 12/1/05	Mon 12/26/05	18	NA
3.1.6 Proj Health & Troubleshooting Handbook (SME stays as legacy-up	97 days?	Mon 1/3/05	Tue 5/17/05		Mon 1/3/05
3.1.7 Project Mgmt. Policy for SSC San Diego	222 days?	Sat 1/3/04	Tue 11/9/04		Sat 1/3/04
3.1.8 SYS/SW Engineering Mgmt (SEM) Policy	260 days?	Mon 1/3/05	Fri 12/30/05		Mon 1/3/05
3.1.8.1 Update/Rework/Re-review SEM Policy	195 days?	Mon 1/3/05	Fri 9/30/05		Mon 1/3/05
3.1.8.2 Approve SEM Policy	260 days	Mon 1/3/05	Fri 12/30/05		Mon 1/3/05
3.1.9 Process Analysis Guide	312.5 days	Fri 2/13/04	Tue 4/26/05		Fri 2/13/04
3.1.10 Proj Monitoring & Control Process	87 days?	Thu 9/1/05	Fri 12/30/05		NA
3.1.10.1 Develop Draft Prototype	1 day?	Thu 9/1/05	Thu 9/1/05		NA
3.1.10.2 Peer Review	1 day?	Mon 10/3/05	Mon 10/3/05		NA
3.1.10.3 Rework	1 day?	Thu 12/1/05	Thu 12/1/05		NA
3.1.10.4 Close	1 day?	Fri 12/30/05	Fri 12/30/05		NA

Ready

EXT CAPS NUM SCRL OVR

Earned Value Tracking Scheme

Earned Value for SEPO Documentation

Rough Draft	50% Earned Value
Ready for Peer Review	25% Earned Value
Baselined	25% Earned Value

Earned Value for SEPO Training Course Development (See Appendix C of the SEPO Training Process)

Determine Course Rqmts	20% Earned Value
Create Course Design	20% Earned Value
Develop Course	20% Earned Value
Pilot Presentations	20% Earned Value
Revise Course	20% Earned Value

Earned Value for Development Efforts

Requirements Defined	15% Earned Value
Design	20% Earned Value
Implementation	25% Earned Value
Test	15% Earned Value
Ready for Peer Review	10% Earned Value
Baselined	15% Earned Value

Other (Non-LOE) Tasks

Started	50% Earned Value
Completed	50% Earned Value

Meetings

- **SPI Agent Meetings (twice a month) (SEPO Team Members and SPI Agents)**
 - Share lessons learned, best practices, review plans and status
 - **SEPO Team Meetings (weekly)**
 - Task status
 - Planning
 - Configuration Control Board (CCB)
 - **SEPO Parallel Organization Meetings (monthly)**
 - Strategic planning
 - Risk management
 - Objective view of SEPO
 - » Are we doing the right things, the right way?
 - » Can we be doing things better?
 - **One-on-one meetings with individual SEPO members and SPI Agents**
 - Review tasking
 - Give and receive feedback
- * All meetings have written format, agendas, minutes, and action items**

PURPOSE - The purpose of the SEPO team meetings is to plan and review SEPO tasking

GOALS - The goals of the SEPO team meetings are listed below:

- Share information and lessons learned on process improvement

- Review the status of current tasking

- Discuss special topics of interest

- Plan future SEPO tasking

- Discuss/resolve issues related to SEPO/process improvement

- Conduct SEPO Configuration Control Board (CCB) meeting, if scheduled

SCHEDULE – SEPO team meetings will be held every Tuesday from 1000-1200 at SEPO

STANDARD AGENDA:

- Assign recorder (in alphabetical order by last name) and facilitator

- Go-Arounds (include announcements, issues, and current tasks as well as any new tasks that are about to begin; 20 min max)

- Code 202 Staff meeting report

- Conduct CCB, if scheduled

- Main Topic

- Review SEPO WBS Tracking Report (periodically)

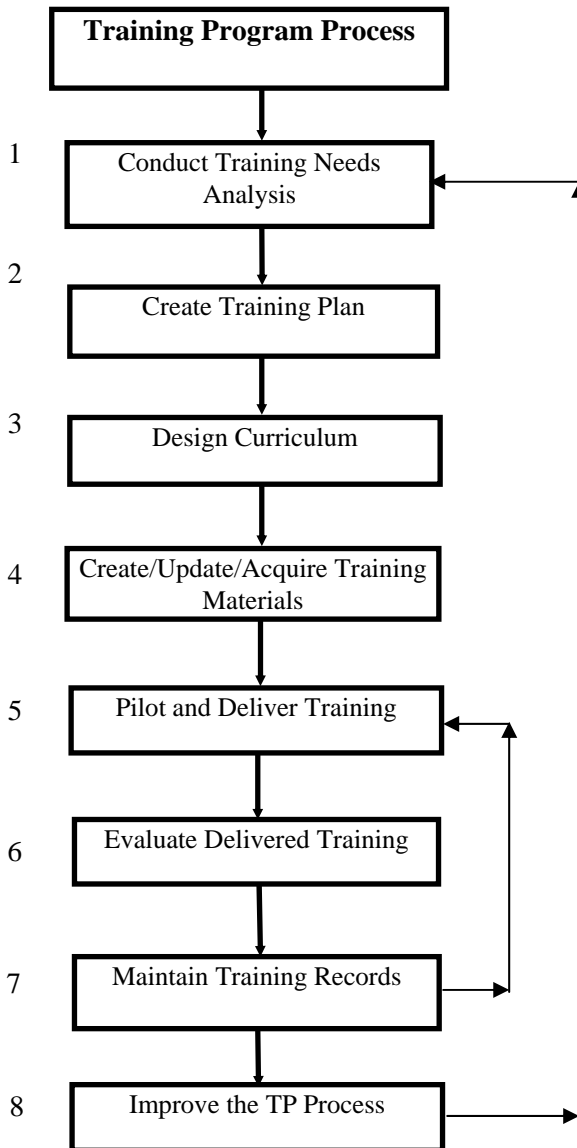
- Determine next meeting topic

- Review Action Items and meeting minutes from previous meeting; review new action items

- Schedule next one-on-one meeting (in alphabetical order by last name)

- Meeting evaluation

SEPO Training Process



SEPO Training Process (2)

- Training needs analysis
- Training course standards
- Configuration Management of training course material
- Training database
- Course checklists
- Train-the-Trainer instructor workshop; instructor evaluation forms

Lessons Learned

- Run the SEPG like a project team (you've heard that before!)
- Use the best practices from the CMMI to plan and manage the SEPG's work efforts
 - Using CMMI best practices helps the SEPG members to understand the model better and become better consultants to projects in the organization
 - SEPG's need to demonstrate that they can follow the same processes they are advocating that others follow (we need to eat our own dog food, so to speak)
- Encourage teamwork and collaboration within the SEPG
 - Teamwork is critical to success

Summary

- **Running an SEPG is just like running a project**
 - **Plans need to be documented and tracked**
 - **Estimates need to be made**
 - **Risks are documented and tracked**
 - **SEPG members are managed**
- **Using best practices can help ensure the success of the SEPG**



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Acronyms

- **C4ISR: Command, Control, Communication, and Computers, Intelligence, Surveillance, and Reconnaissance**
- **CMMI: Capability Maturity Model Integration**
- **DCR: Document Change Request**
- **FTE: Full Time Equivalent**
- **PAL: Process Asset Library**
- **PMP: Project Management Plan**
- **RDT&E: Research, Development, Test, and Evaluation**
- **ROI: Return on Investment**
- **SEPG: Software Engineering Process Group**
- **SPI: Systems/Software Process Improvement**
- **SEPO: Systems Engineering Process Office**
- **SPIWG: Systems Process Improvement Working Group**
- **SSC San Diego: Space and Naval Warfare Systems Center, San Diego**
- **SW-CMM: Capability Maturity Model for Software**