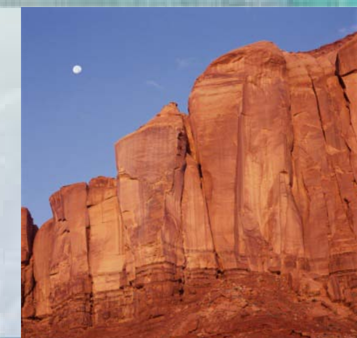
CECOM Life Cycle Management Command (LCMC)
Software Engineering Center (SEC)

How We Moved The Rock



Presented by: Harlan Black, MBB(c)
CECOM LCMC SEC ESD
CMMI IPT Lead, Requirements Management

18 November 2009

CECOM LCMC Life Cycle Management Command

Implementing Requirements Management To Deliver Life Cycle Software Solutions That Ensure Warfighting Superiority and Information Dominance: How We Moved The Rock

- In its continuing pursuit of excellence, the Army's Communication-Electronics Command's (CECOM) Software Engineering Center (SEC) took the **challenge** to implement CMMI in its geographically dispersed organizations.
- We will present innovative **tools and templates** that you can use to help project leads plan for CMMI and to help higher-level management track their organization's implementation progress.
- In describing the innovative techniques we adopted to implement the Requirements Engineering (REQM) process area, we will give you insight into the **significance of REQM** and you will walk away with new ideas on how to better meet and manage customer needs within your own organization.

REQM Review (1)

Goals:

1. All requirements for all project services, products, and product components are managed.
2. Inconsistencies between all requirements and both project plans and work products are identified and resolved.

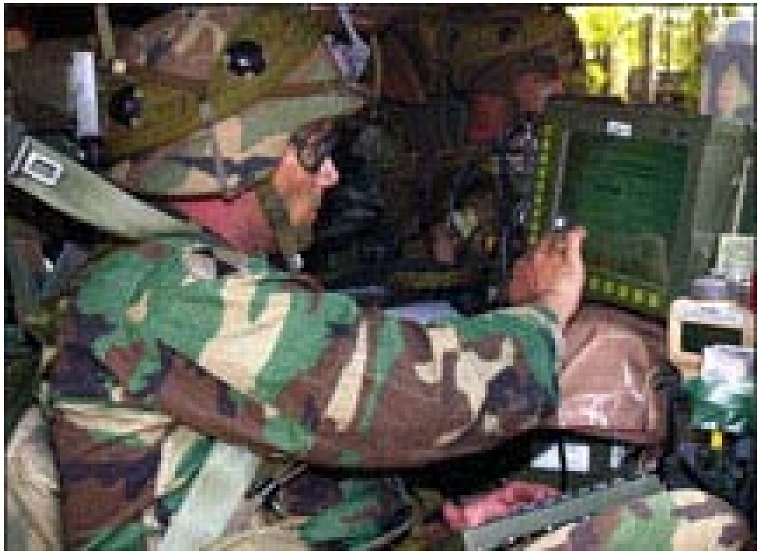
REQM Review (2)

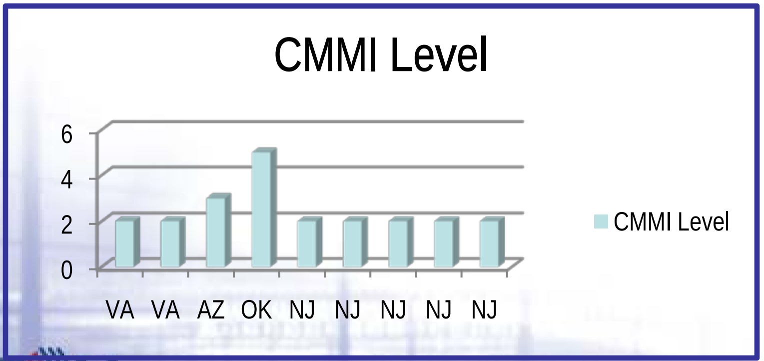
Specific Practices:

1. Obtain an understanding of the requirements.
2. Obtain commitment from the project team to implement the requirements.
3. Manage requirements changes.
4. Trace the requirements.
5. Identify and resolve inconsistencies.

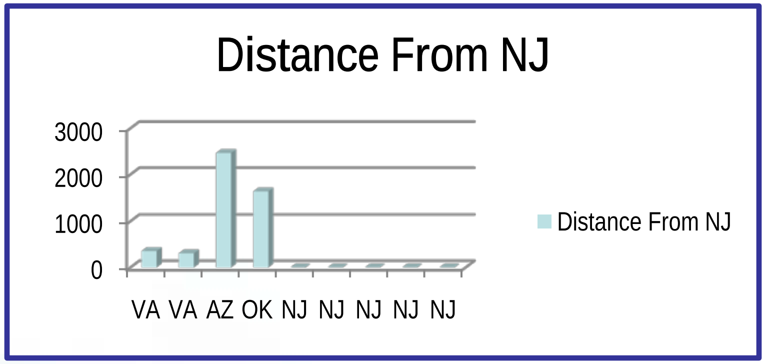
CECOM Software Engineering Center Circa 2004

Warfighter Mission Area





Business Mission Area



CECOM LCMC Life Cycle Management Command

SEC: Diversity, Diversity, Diversity

- PRODUCTS
  - Producing and Releasing New Software; Developing Custom Web Sites; Changing and Fixing Existing Software and Releasing New Versions; Developing Training Products for Software; Producing Technical Documentation for Software and Systems; Producing Technical Data for Software and Systems
- SERVICES
  - Helping Other Organizations Acquire Software Products through Matrix Support; Making Software Work Where it is Being Used (Field Support); Providing Software and Systems Testing; Providing Training Services for Software; Maintaining a Library for Storage, Retrieval, and Configuration Management of Software and Software Documentation; Copying, Distributing, and Installing Software; Designing and Managing Hosted Web Applications; Providing Software and System-Related Consultative Services; Providing Software and System Quality-Related Services; Providing Management Services for Other Organizations; Serving on System and System-Related Working Groups and Boards; Providing Computing Resources; Managing Technical Data for Software and Systems; Performing Causal and Risk Analysis

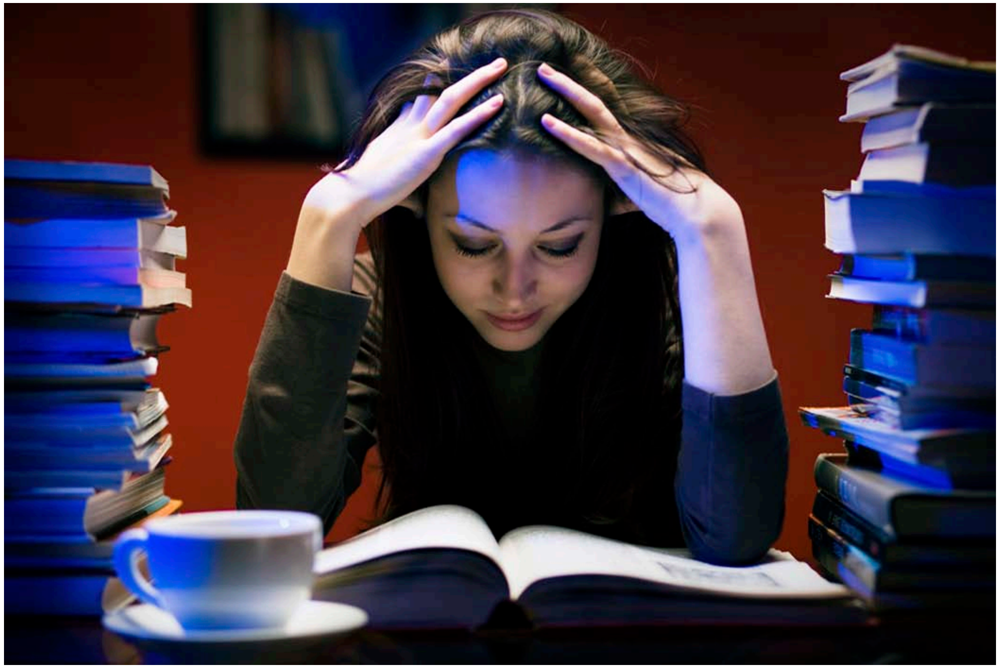
REQM for Level Two: A CMMI Challenge

Category	Process Area	Potential Dependence On Development Technology
Project Management	PP	Weak
Project Management	PMC	Weak
Project Management	SAM	Weak
Support	CM	Low
Support	M&A	Weak
Support	PPQA	Weak
Engineering	REQM	High

So How Did We Do It? Eleven Tips

Tip One: Make Sure You Improve the Right Organization

- REQM is all about WHATs so first find out and document WHAT the business does.



- Get the requirements of the requirements.

SEC’s Public Web Site Home Page

Tip Two: Make it Relevant

- Understand The Requirements
  - How can we give customers just what they asked for if we are not certain that we understand what this is?
- Get Team Commitment
  - How can we give customers just what they asked for if we are not certain that the project team is going to provide it?
- Manage Changes
  - How can we give customers just what they asked for if we are not certain that we are giving them what they want today and not what they wanted yesterday?
- Trace Requirements
  - How can we give customers just what they asked for if we are not certain that we are giving them everything they asked for and that we are not giving them things that they didn't ask for?
- Identify & Resolve Inconsistencies
  - How can we be certain that we are giving customers just what they asked for if we have mismatches inside our project?

Tip Three: Let Them Tell You How They Will Manage Requirements

SEC REQM PD

REQM Questionnaire

3. Manage Requirements Changes

(How can we give customers just what they asked for if we are not certain that we are giving them what they want today and not what they wanted yesterday?)

3.a

Quote From The REQM PD	Questions
Capture all requirement changes that are given to or generated by the project.	3.a.1) What do you do to capture each requirement change and ensure that none are lost? *3.a.2) What evidence can you provide that indicates you are doing this?
Enter your answers below.	
3.a.1)	
3.a.2)	**Hints & Tips:** Requirements change request logs or reports.

3.b

Quote From The REQM PD	Questions
Maintain the requirement change history with the source and rationale for the changes.	3.b.1) Given that requirements evolve, what do you do to be able to recall previous version of each requirement? 3.b.2) What do you do to document the reason for each change? 3.b.3) What evidence can you provide that indicates you are doing this?

Project REQM SOP

The REQM Questionnaire (1)

A. Obtain an understanding of requirements.

- Only certain people are authorized to provide project requirements. What rule(s) or criteria do you use to determine the source of your requirements?
- It is possible for a requirement to be vague or impossible to satisfy. What rule(s) or criteria do you use to determine whether a requirement is acceptable?
- How are you certain that above criteria are being met? What do you do?
- Before you start making something, how do you know that customer is in agreement with what you think he wants? What do you do?

B. Obtain commitment from the project team to implement the requirements.

- How do you know that your team is able to implement the requirements? What do you do?
- What do you do to ensure that project team members are kept current with changes in requirements?
- How do you know that the project team members are committed to implement the current set of requirements? What do you do?

The REQM Questionnaire (2)

C. Manage requirements changes.

- What do you do to capture each requirement change and ensure that none are lost?
- Given that requirements evolve, what do you do to be able to recall previous versions of each requirement?
- What do you do to document the reason for each change?
- How do you know that your team is able to implement the new set of requirements? What do you do?
- How do you know the impact of requirements changes on stakeholders who are external to the project team, such as the customer?
- As requirements change, how does your team know what needs to be produced or provided? What do you do?

D. Trace the requirements.

- How do you know that every requirement was satisfied? What do you do?
- How do you know that whatever was needed to implement requirements was indeed done? What do you do?
- For products only: How do you know that whatever was done within the project was done for something that was agreed upon? What do you do?
- For products only: How do you know that the work products within the projects can be mapped to each other? What do you do?

The REQM Questionnaire (3)

E. Identify and resolve inconsistencies.

- How do you know that there are no requirements-related mismatches and inconsistencies within the project at any given time?
- When you find an inconsistency that relates to requirements, what do you do to determine and record why it happened?
- When you find inconsistencies that relate to requirements, what do you do to be certain that you have identified everything that needs to be corrected?
- What do you do to manage the resolution of inconsistencies that relate to requirements?
- What do you do to ensure that inconsistencies that relate to requirements were resolved?

Tip Four: Do Some of The Work for Them

3. Manage Requirements Changes

(How can we give customers just what they asked for if we are not certain that we are giving them what they want today and not what they wanted yesterday?)

3.a

Quote From The REQM PD	Questions
Capture all requirement changes that are given to or generated by the project.	3.a.1) What do you do to capture each requirement change and ensure that none are lost? *3.a.2) What evidence can you provide that indicates you are doing this?
Enter your answers below.	
3.a.1)	
3.a.2)	**Hints & Tips:** Requirements change request logs or reports.

3.b

Quote From The REQM PD	Questions
Maintain the requirement change history with the source and rationale for the changes.	3.b.1) Given that requirements evolve, what do you do to be able to recall previous version of each requirement? 3.b.2) What do you do to document the reason for each change? 3.b.3) What evidence can you provide that indicates you are doing this?

REQM Questionnaire

3. Managing Requirements Changes
A. Capturing all requirement changes that are given to or generated by the project. All changes to requirements and the reason or rationale for the change is documented in CodeBeamer.
B. Maintaining the requirement change history with the source and rationale for the changes Change history for requirements with source and rationale for the change is recorded and tracked in CodeBeamer.
C. Evaluating the impact of requirements changes from the standpoint of relevant stakeholders. After analyzing the requirements and assessing their impact on the team, training is given to team members as needed to ensure they will be able to implement the new requirements. Meetings are held with customers to discuss the impact of requirement changes. Evidence is documented in email to customers, and reports generated by CodeBeamer.
D. Making the requirement and change data available to the project. As changes to the requirements are made, new tasks are assigned to team members though CodeBeamer. Evidence of this provided through reports generated by CodeBeamer.

Project REQM SOP

Tip Five: Make It Look Simple

Project Plan: Index

Requirements Management

The following personnel are authorized by the customer to provide requirements for this project:		
Name	**Phone Number**	**Email**

Phone Number
Enter the Phone Number of the person who is authorized to provide requirements for your project.

Enter your projects
fields provided. If y
provider(s) on the S
tab here. Enter the
project follows. If y
specified in the REC
the modification in
a standard and app
Plan that is complia
REQM practitioner v
that it was approve
document and/or re

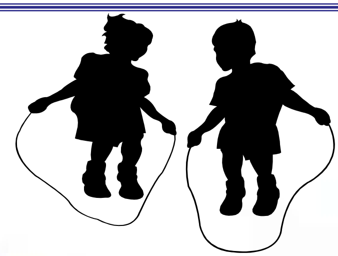
The project shall manage requirements in accordance with the following REQM SOP or Plan:	
If the above REQM SOP will be modified for this project, describe the modification and rationale below:	
Description:	**Rationale:**
Describe where the Project's Requirements are documented and provide a link to the Project's Requirements Document or repository.	

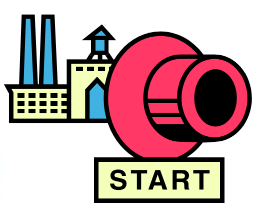
Data Management | Requirements Mgmt | Measurement and Analysis | Quality Assurance | Risk Mgmt

Simplicity, Simplicity, Simplicity

1. Take the training
2. Fill out the REQM Plan template
3. Find an REQM SOP or fill out a questionnaire and submit it to the IPT Lead.
4. Follow your SOP

REQM Jump Start Kit





Tip Six: Give Them The Test Questions

Understanding Requirements	Are requirements documented? Enter location / description of requirements documents in the remarks section.
	Are there appropriate work products documenting the understanding of requirements, e.g., criteria for establishment and acceptance, results of analyses, agreed-to set of requirements?
Obtaining Commitments from project team	Have commitments been negotiated and recorded?
	Does evidence exist that requirements have been discussed within the project team?
Managing changes as they evolve throughout the project	Are changes being documented, including the source and rationale for the changes?
Maintaining bi-directional traceability (Note: product projects only)	Has requirements traceability been maintained from a requirement to its derived requirements and its allocation to functions, objects, people, processes, and work products?
	Are there appropriate work products documenting bi-directional traceability e.g., requirements traceability matrix, requirements tracking system?
Maintain traceability (Note: services projects only)	Has the project maintained traceability between the required services and the delivered services?

Tip Seven – Give Them a Nice Pal

CMMI®
SOFTWARE ENGINEERING CENTER

CMMI Home

Requirements Management (REQM)

For information you need to manage requirements for SEC and SED projects, see below.

Jump Start Kit
- Click Here To Jump Into REQM
- Paper: Planning To Manage Requirements

Training
- SEC-specific Requirements Management Training

Process Description (PD)
- REQM Process Description (version 2.0, 27 June 2008)

Lessons Learned and Interim Guidance
- July 07

Checklists
- Requirements Management PIID and Suggestions
- Requirements Management Checklist for Products
- Requirements Management Checklist for Services
- Appraisals - Process Implementation Indicator Document (PIID)

Templates
- Requirements Management Plan Template
- Requirements Management Questionnaire
- Requirements Management SOP Template
- Requirements Management Spreadsheet (Draft)
- Meeting Minutes Template

References and Tutorials
- Introducing Efficient Requirements Management
- Interpreting Capability Maturity Model□ Integration (CMMI□) for Service Organizations □ a Systems Engineering and Integration Services Example
- The Politics of Requirements Management
- Patterns for the Requirements Engineering Process

Requirements Traceability
- DOE Requirements Traceability Guide
- Tracing All Around in Reengineering
- ABSD Requirements Traceability Plan
- Traceability Examples:

Sample REQM Plans and Project Class Standard Operating Plans (SOPs)
- Index To SOPs (a spreadsheet containing links to more than 40 SOPs stored in AKO)

Tools
- SEC
  - ABSD □ ReqPro
  - ASD Change Request Management
  - BMD Magic (Stars)
  - Fort Lee CASPER Action Request System
  - Huachuca Software Problem Report System
  - ITED (ASD) Test Director
  - Sill Metrics Tracker
- Industry Survey of Requirements Management Tools

Process Owner
- Jeff Downing

IPT Representatives
- Harlan Black: **IPT Lead**
- Directorate Representatives

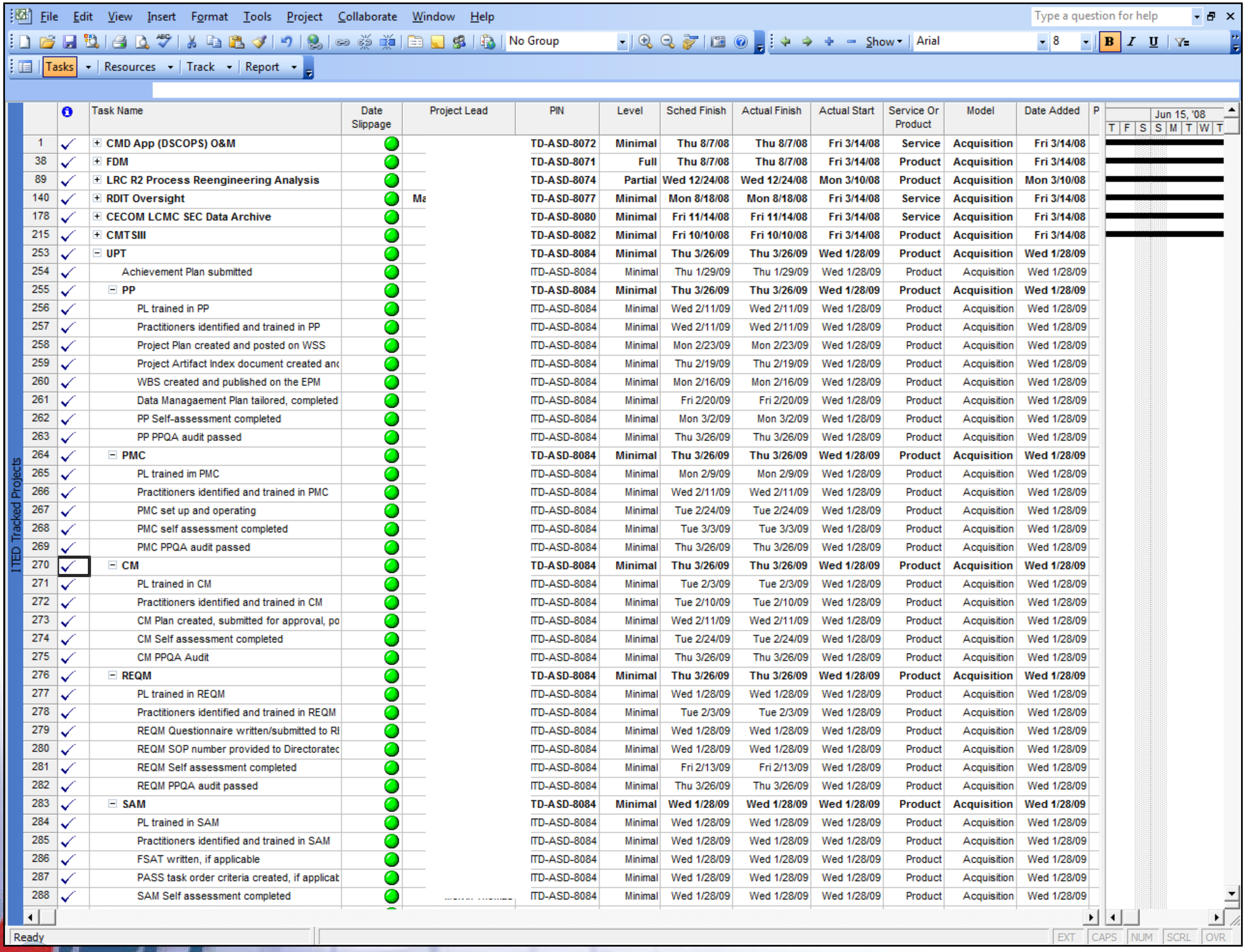
Help and Feedback
- SEC Process Support
- Email PI Support

Tip Eight: Help Them Steal SOPs

Index To Existing & Approved SEC Requirements Management SOPs.
Version 2.3, Dated 13 Aug 09
Owner: REQM IPT Lead

Class or type of project.		Who controlls the process of transforming the requirements into products/services?	REQM tools used or referenced.	SOP
Products				
	Produce and release new software.			
		Government	Tracker, PPS	
		Government		
		Government		
		Government		
		Government		
		Government	CodeBeamer	
		Contractor	Doors, SourceSafe, Test Director	
		Contractor	Doors, SourceSafe, Test Director	
		Contractor		
		Contractor	Requirements are captured in Software Problem Reports / Field incident Report databases.	
		Contractor		
		Contractor	SourceSafe, Test Director	
		Contractor	SourceSafe, Mercury Quality Center	
		Contractor	SourceSafe, Mercury Quality Center	
		Government	Excel Spreadsheet	
	Change and fix existing software and release new versions.			
		Government	Excel Spreadsheet and Access Database	
		Government & Contractor	Tracker, PPS	
		Government	IFS SPR Database, RCB Presentations, EMAR	
		Government		
	Develop training products for software.			
	Produce technical documentation for software and systems.			
		Contractor		
	Produce/extract technical data/reports for software and systems.			
		Contractor		
		Government	FMIS Requirements Management Database	
Services				
	Help other organizations acquire software products (Matrix Support).			

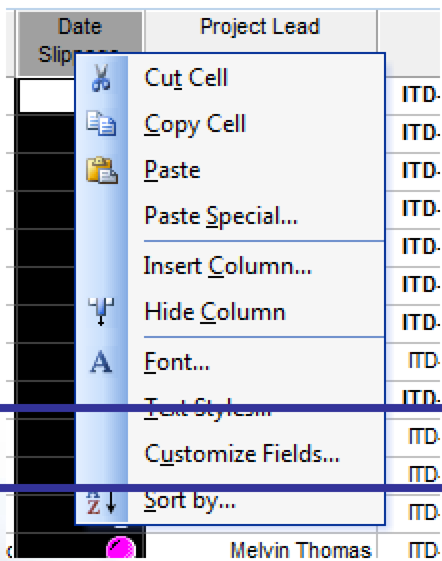
Tip Nine: Give Managers Tracking Tools

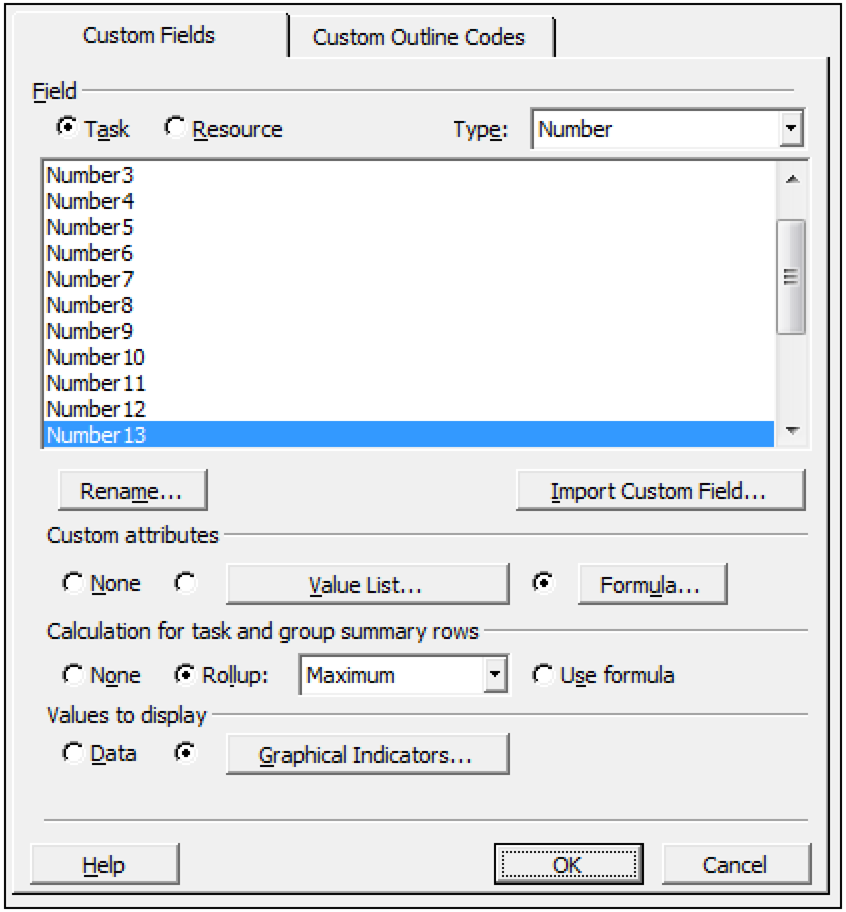


		Task Name	Date Slippage	Project Lead	PIN	Level	Sched Finish	Actual Finish	Actual Start	Service Or Product	Model	Date Added
1	✓	+ CMD App (DSCOPS) O&M			TD-ASD-8072	Minimal	Thu 8/7/08	Thu 8/7/08	Fri 3/14/08	Service	Acquisition	Fri 3/14/08
38	✓	+ FDM			TD-ASD-8071	Full	Thu 8/7/08	Thu 8/7/08	Fri 3/14/08	Product	Acquisition	Fri 3/14/08
89	✓	+ LRC R2 Process Reengineering Analysis			TD-ASD-8074	Partial	Wed 12/24/08	Wed 12/24/08	Mon 3/10/08	Product	Acquisition	Mon 3/10/08
140	✓	+ RDIT Oversight		Ma	TD-ASD-8077	Minimal	Mon 8/18/08	Mon 8/18/08	Fri 3/14/08	Service	Acquisition	Fri 3/14/08
178	✓	+ CECOM LCMC SEC Data Archive			TD-ASD-8080	Minimal	Fri 11/14/08	Fri 11/14/08	Fri 3/14/08	Service	Acquisition	Fri 3/14/08
215	✓	+ CMTSIII			TD-ASD-8082	Minimal	Fri 10/10/08	Fri 10/10/08	Fri 3/14/08	Product	Acquisition	Fri 3/14/08
253	✓	− UPT			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
254	✓	Achievement Plan submitted			TD-ASD-8084	Minimal	Thu 1/29/09	Thu 1/29/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
255	✓	− PP			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
256	✓	PL trained in PP			TD-ASD-8084	Minimal	Wed 2/11/09	Wed 2/11/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
257	✓	Practitioners identified and trained in PP			TD-ASD-8084	Minimal	Wed 2/11/09	Wed 2/11/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
258	✓	Project Plan created and posted on WSS			TD-ASD-8084	Minimal	Mon 2/23/09	Mon 2/23/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
259	✓	Project Artifact Index document created anc			TD-ASD-8084	Minimal	Thu 2/19/09	Thu 2/19/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
260	✓	WBS created and published on the EPM			TD-ASD-8084	Minimal	Mon 2/16/09	Mon 2/16/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
261	✓	Data Managaement Plan tailored, completed			TD-ASD-8084	Minimal	Fri 2/20/09	Fri 2/20/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
262	✓	PP Self-assessment completed			TD-ASD-8084	Minimal	Mon 3/2/09	Mon 3/2/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
263	✓	PP PPQA audit passed			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
264	✓	− PMC			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
265	✓	PL trained im PMC			TD-ASD-8084	Minimal	Mon 2/9/09	Mon 2/9/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
266	✓	Practitioners identified and trained in PMC			TD-ASD-8084	Minimal	Wed 2/11/09	Wed 2/11/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
267	✓	PMC set up and operating			TD-ASD-8084	Minimal	Tue 2/24/09	Tue 2/24/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
268	✓	PMC self assessment completed			TD-ASD-8084	Minimal	Tue 3/3/09	Tue 3/3/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
269	✓	PMC PPQA audit passed			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
270	✓	− CM			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
271	✓	PL trained in CM			TD-ASD-8084	Minimal	Tue 2/3/09	Tue 2/3/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
272	✓	Practitioners identified and trained in CM			TD-ASD-8084	Minimal	Tue 2/10/09	Tue 2/10/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
273	✓	CM Plan created, submitted for approval, po			TD-ASD-8084	Minimal	Wed 2/11/09	Wed 2/11/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
274	✓	CM Self assessment completed			TD-ASD-8084	Minimal	Tue 2/24/09	Tue 2/24/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
275	✓	CM PPQA Audit			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
276	✓	− REQM			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
277	✓	PL trained in REQM			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
278	✓	Practitioners identified and trained in REQM			TD-ASD-8084	Minimal	Tue 2/3/09	Tue 2/3/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
279	✓	REQM Questionnaire written/submitted to RI			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
280	✓	REQM SOP number provided to Directoratec			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
281	✓	REQM Self assessment completed			TD-ASD-8084	Minimal	Fri 2/13/09	Fri 2/13/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
282	✓	REQM PPQA audit passed			TD-ASD-8084	Minimal	Thu 3/26/09	Thu 3/26/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
283	✓	− SAM			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
284	✓	PL trained in SAM			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
285	✓	Practitioners identified and trained in SAM			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
286	✓	FSAT written, if applicable			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
287	✓	PASS task order criteria created, if applicat			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09
288	✓	SAM Self assessment completed			TD-ASD-8084	Minimal	Wed 1/28/09	Wed 1/28/09	Wed 1/28/09	Product	Acquisition	Wed 1/28/09

Us vs. MS Project: How We Did It (1)

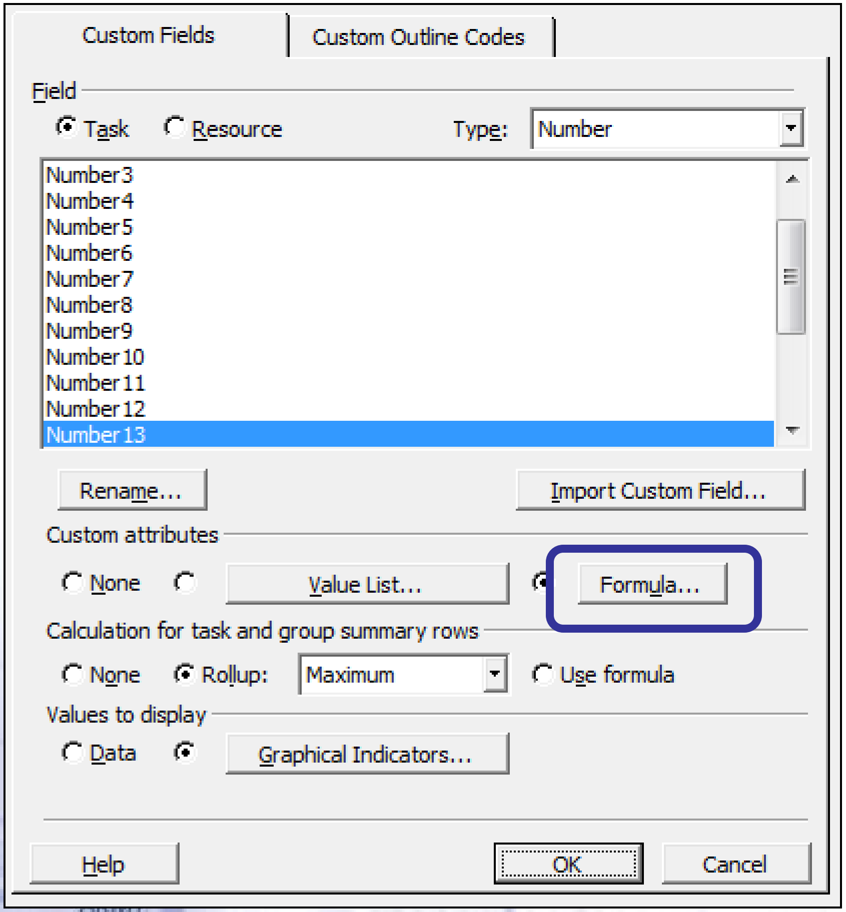
Right-click on column header.
Select Customize Fields.

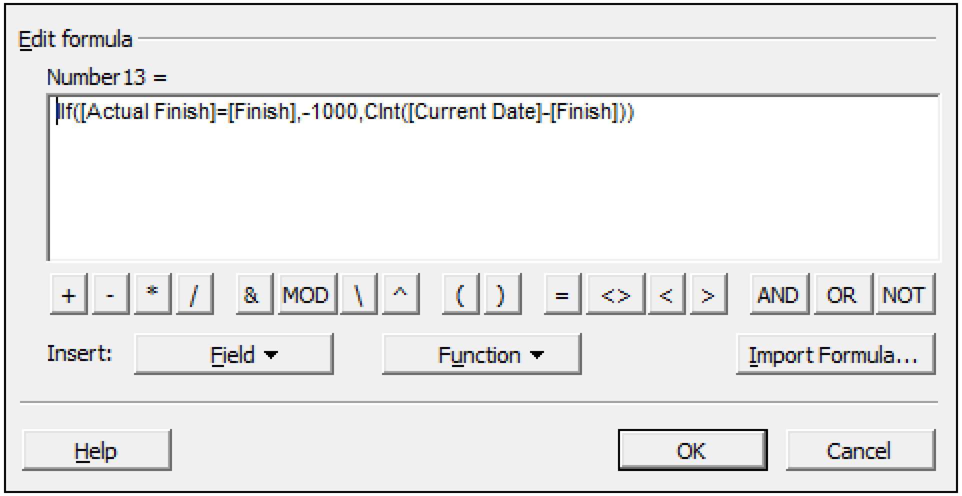




How We Did It (2)

Click on ‘Formula’

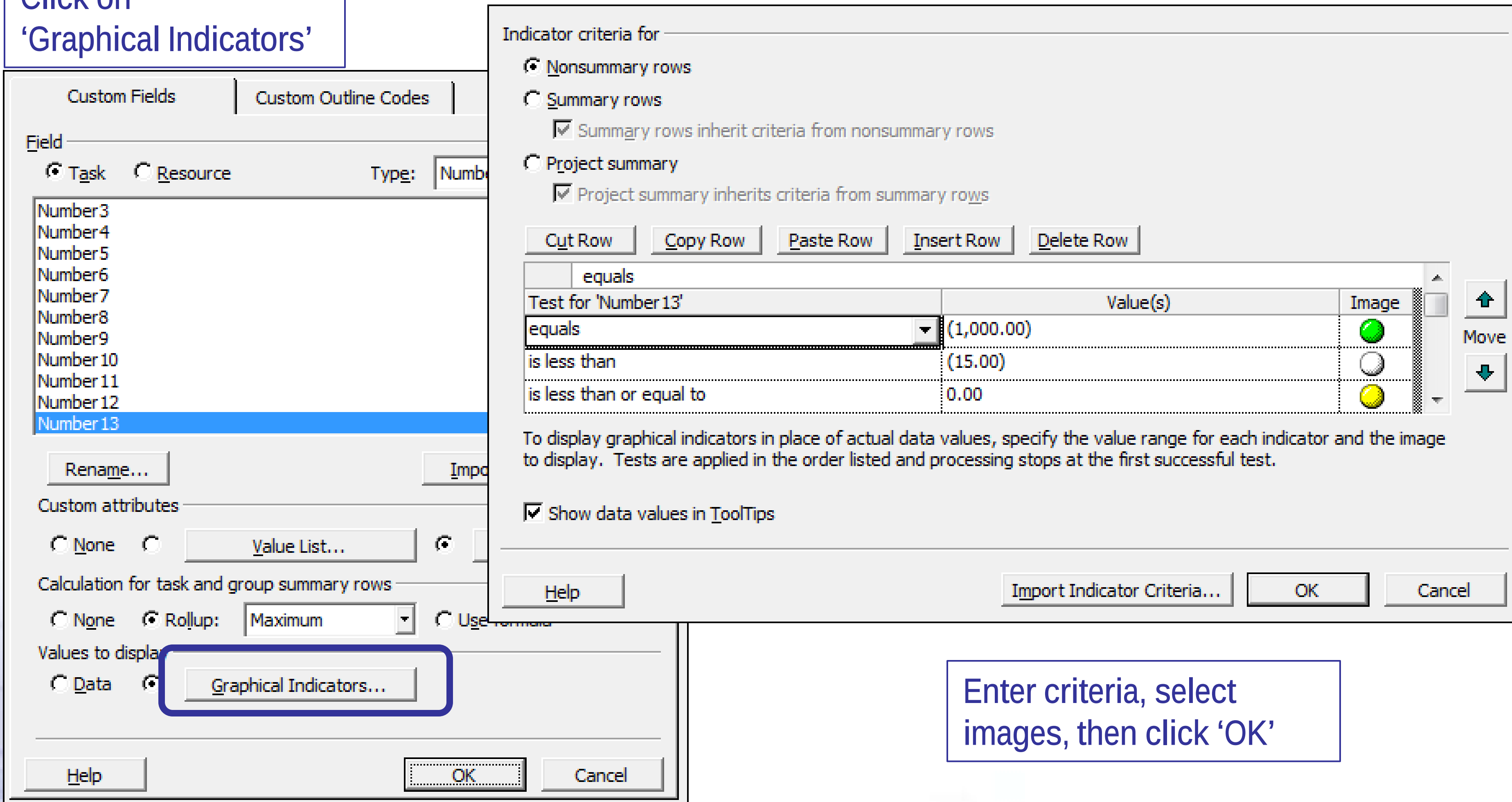




Enter formula and click ‘OK’

How We Did It (3)

Click on ‘Graphical Indicators’



Enter criteria, select images, then click ‘OK’

Tip Ten – Help Them Plan (1)

ITED's Project Leader CMMI DEV Version 1.1 Level 2 Achievement Plan: From Startup To Sustainment And PPQA. For Full and Partial Projects									
Project Name									
Project PIN									
Project Leader									
Date Submitted to ITED Coordinator									
Process Area									**Total**
PP	Date Project Leader trained on the tools and PP processes and tools	Date Project PP practitioners identified and PL has ensured that they have been trained on PP processes and tools.	Date Project Plan created and posted on the WSS	Date Project Artifact Index document created and stored on the WSS	Date WBS created and published on the EPM	Date Data Management Plan tailored, completed, and uploaded.	Date PP Self-Assessment completed	Date successfully passed an independent PPQA confirmation audit for PP.	
Hours needed (est.)	4	0.5	16	8	16	6			50.5
Planned Completion Date									
PMC	Date Project Leader trained on the tools andPMC processes and tools	Date Project PMC practitioners identified and PL has ensured that they have been trained on PMC processes and tools		Date Project PMC is set up and operating.			Date PMC Self-Assessment completed	Date successfully passed an independent PPQA confirmation audit for PMC	
Hours needed (est.)	1.5	0.5		16					18
Planned Completion Date									
CM	Date Project Lead trained on CM processes and tools	Date project CM practitioners identified and PL has ensured that they have been trained on CM process and tools	Date CM Plan created/submitted to Branch or Division Chief & posted on Sharepoint/EPM:				Date CM Self-Assessment completed.	Date successfully passed an independent PPQA confirmation audit for CM	
Hours needed (est.)	2	0.5	8						10.5

Tip Ten – Help Them Plan (2)

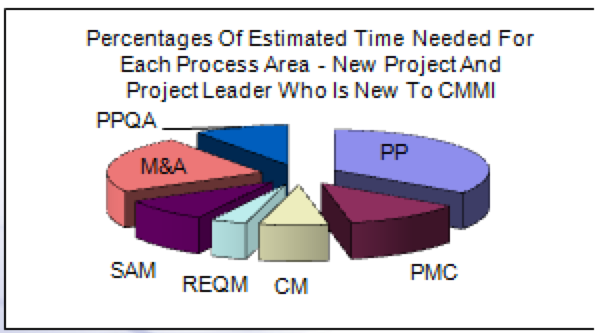
REQM	Date Project Lead trained on the REQM process and tools	Date project REQM practitioners identified and PL has ensured that they have been trained on REQM process and tools	Date REQM Questionnaire written/submitted to REQM IPT Lead for review or Date REQM SOP identified.	Date REQM SOP Number provided to the Directorate's REQM lead. Get number from REQM PAL.	(If you already have a REQM SOP number, please provide it in the space below.)		Date REQM Self-Assessment Completed	Date successfully passed an independent PPQA confirmation audit for REQM.	
Hours needed (est.)	0.5	0.5	4	0.5					5.5
Planned Completion Date									
SAM	Date Project Lead trained on SAM processes and tools	Date project SAM practitioners identified and PL has ensured that they have been trained on SAM process and tools	Date FSAT (SEC Functional Support Agreement) - is written for an organization with whom SEC has an agreement with (if applicable).	Date PASS (SEC Task Order Process) criteria are created (Applicable if a project team evaluates contractor performance).			Date SAM Self-Assessment completed	Date successfully passed an independent PPQA confirmation audit for SAM.	
Hours needed (est.)	2	0.5	8	3					13.5
Planned Completion Date									
M&A	Date Project Leader trained on the M&A process (4 Classes) and tools	Date project M&A practitioners identified and PL has ensured that they have been trained on M&A process and tools	Date Measurement Plan (MP) established for project.	Date of initial collection of measurement data and insertion into EMAR/CMWB.	Date providing initial M&A Report to management.		Date M&A Self-Assessment completed	Date successfully passed an independent PPQA confirmation audit for M&A	
Hours needed (est.)	4	0.5	6	15	8				33.5
Planned Completion Date									
PPQA	Date Project Leader trained on the PPQA process and tools.	Date project PPQA practitioners identified and PL has ensured that they have been trained on the PPQA process and tools.	QA Plan created/submitted to Branch or Division Chief & posted on Sharepoint/EPM				Date PPQA Self-Assessment completed	Date successfully passed an independent PPQA confirmation audit for PPQA.	
Hours needed (est.)	6	0.5	8						14.5
Planned Completion Date									

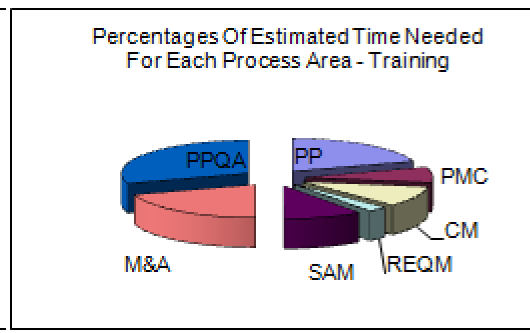
Tip Ten – Help Them Plan (3)

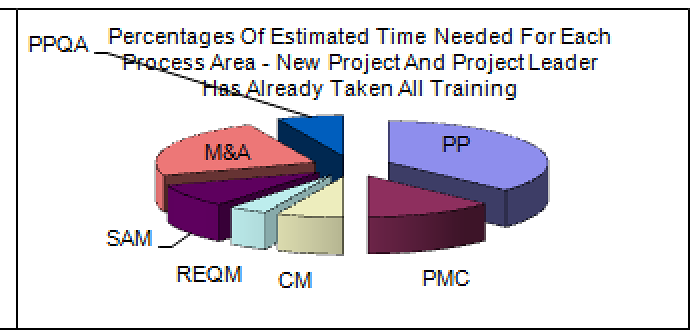
Estimated number of hours for a PL to bring a new project up to compliance. This does not include time for subsequent sustainment, for the self-assement and passing the compliance audits. (Re-use of plans and artifacts from other projects can significantly reduce these estimates.)

Project Time: Training Time + Process Time (hours)	Training Time (hours)	Process Time (hours)
146	**20**	**126**

Process Area	Estimated Hours Needed	Percentage	Process Area	Estimated Hours Needed	Percentage	Process Area	Estimated Hours Needed	Percentage
PP	50.5	35%	PP	4	20%	PP	46.5	37%
PMC	18	12%	PMC	1.5	8%	PMC	16.5	13%
CM	10.5	7%	CM	2	10%	CM	8.5	7%
REQM	5.5	4%	REQM	0.5	3%	REQM	5	4%
SAM	13.5	9%	SAM	2	10%	SAM	11.5	9%
M&A	33.5	23%	M&A	4	20%	M&A	29.5	23%
PPQA	14.5	10%	PPQA	6	30%	PPQA	8.5	7%
Total	**146**	**100%**	**Total**	**20**	100%	**Total**	**126**	100%





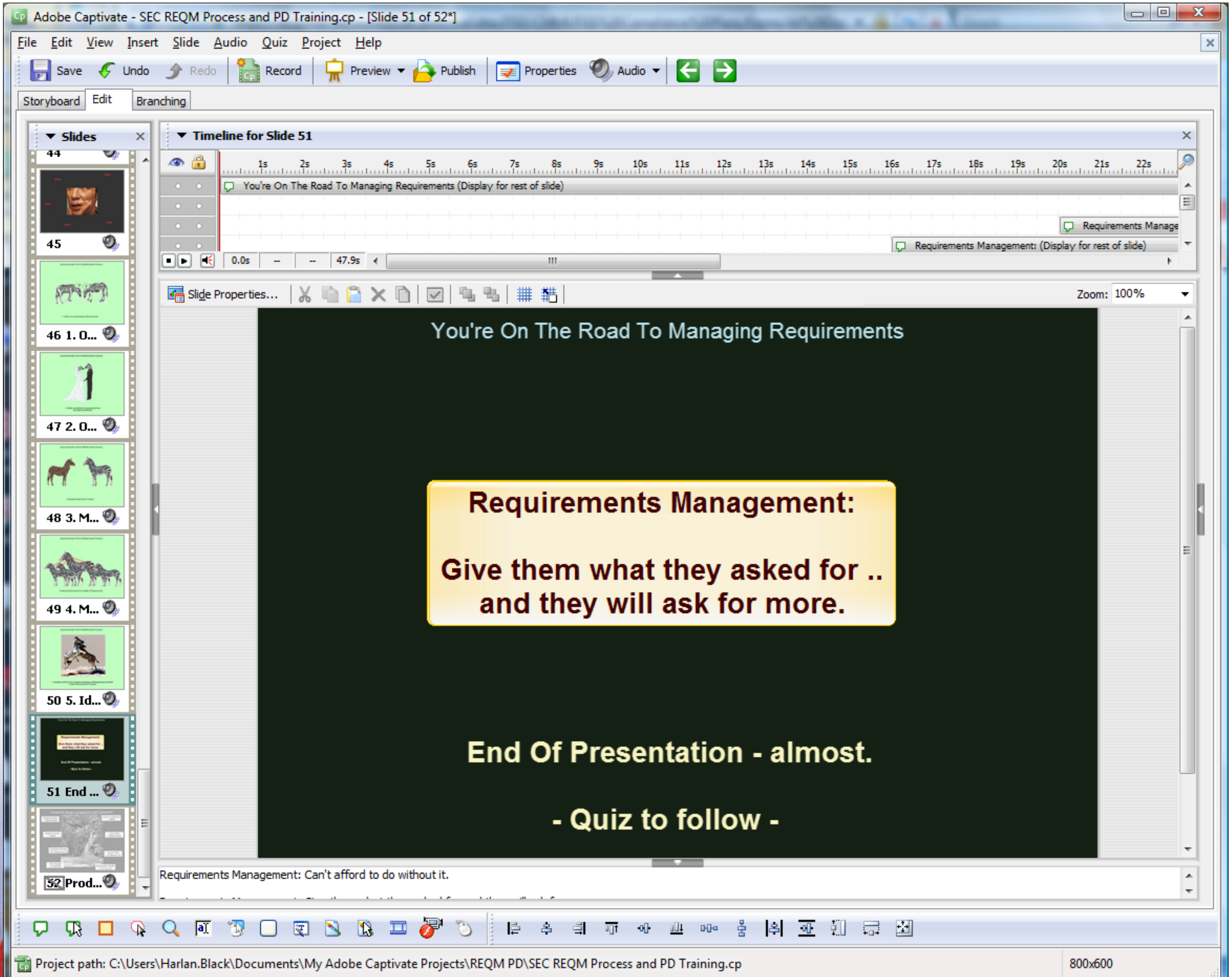


Tip Eleven: Train Then Well …

Don’t Do That!

Death By PowerPoint

Tip Eleven: … Wow Them With Training!



Summary (1)

1. Make Sure You Improve the Right Organization
2. Make it Relevant
3. Let Them Tell You How They Will Manage Requirements
4. Do Some of The Work for Them
5. Make It Look Simple
6. Give Them The Test Questions

Summary (2)

7. Give Them a Nice Pal
8. Help Them Steal SOPs
9. Give Managers Tracking Tools
10. Help Them Plan
11. Wow Them With Training

SEC REQM Training. Ready for take-off.