

Automated Monitoring of Process Compliance

*Gary Natwick
Harris Corporation*

Government Communications Systems Division



- \$1.5B in Sales
- > 6,500 Employees
- ISO 9001:2000
- SEI CMM Level 4

DoD Programs



Civil Programs



National Programs



Strategic Management and Business Development



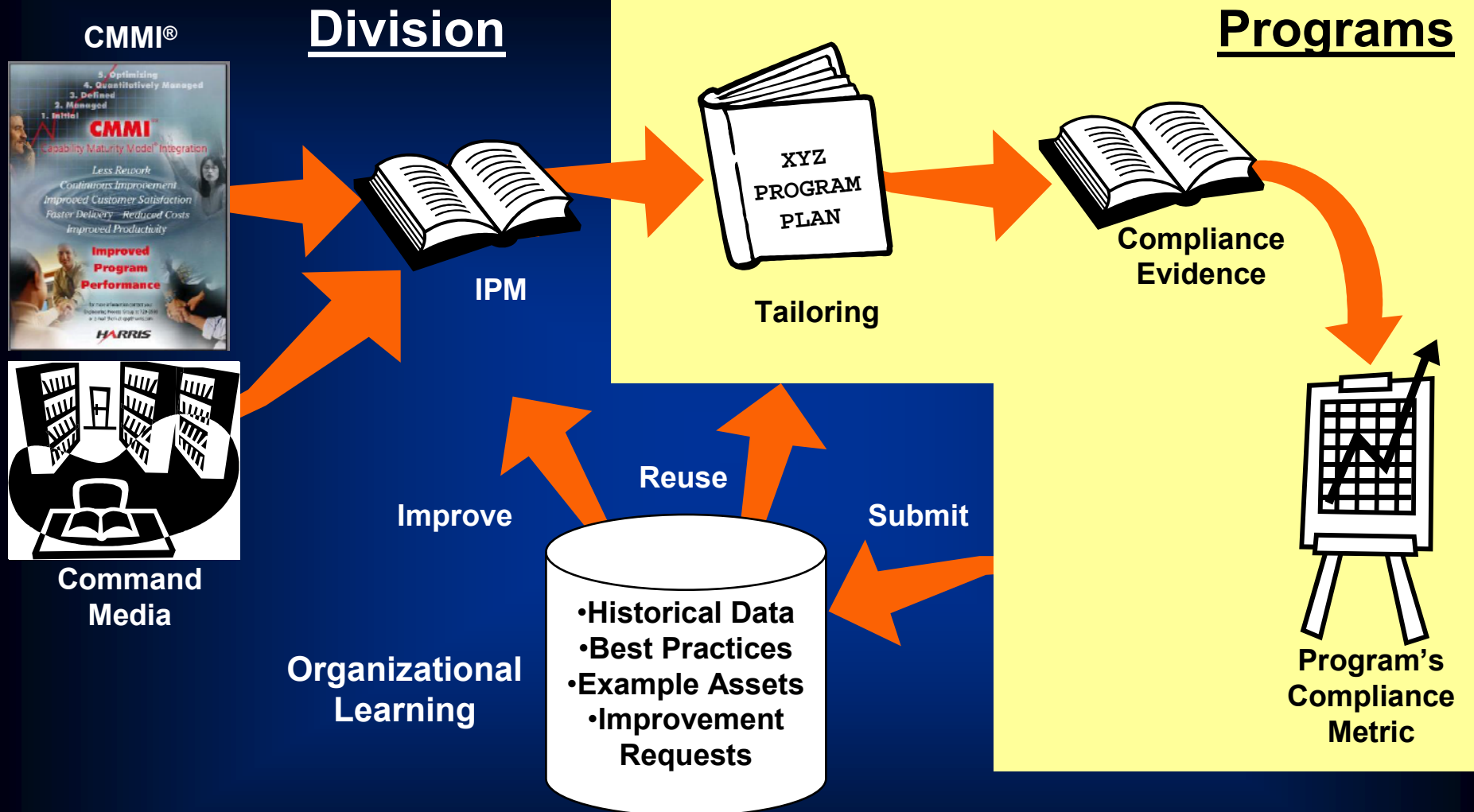
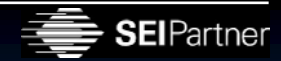
Homeland Security Programs



Harris Technical Services Corporation



Integrated Compliance Approach



CMMI®-SEISW Staged Representation



Maturity Level	Focus	Process Areas
5 Optimizing	<i>Continuous Process Improvement</i>	Organizational Innovation and Deployment Causal Analysis and Resolution
4 Quantitatively Managed	<i>Quantitative Management</i>	Organizational Process Performance Quantitative Project Management
3 Defined	<i>Process Standardization</i>	Requirements Development Technical Solution Product Integration Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution
2 Managed	<i>Basic Project Management</i>	Requirements Management Project Planning Project Monitoring and Control Supplier Agreement Management Measurement and Analysis Process and Product Quality Assurance Configuration Management
1 Initial		

CMMI® Process Area Categories



CMMI®

Project Management

- Project Planning
- Project Monitoring and Control
- Supplier Agreement Management
- **Integrated Project Management**
- **Risk Management**
- **Quantitative Project Management**

Engineering

- Requirements Management
- **Requirements Development**
- **Technical Solution**
- **Product Integration**
- **Verification**
- **Validation**

Support

- Configuration Management
- Process and Product Quality Assurance
- Measurement and Analysis
- **Decision Analysis and Resolution**
- **Causal Analysis and Resolution**

Process Management

- **Organizational Process Focus**
- **Organizational Process Definition**
- **Organizational Training**
- **Organizational Process Performance**
- **Organizational Innovation and Deployment**

- **Maturity Level 2**
- **Maturity Level 3**
- **Maturity Level 4**
- **Maturity Level 5**

IPM

Program Management Processes

- Program Planning
- Estimation
- Program Monitoring and Control
- Supplier Acquisition & Management
- Change Management

Program Life-Cycle Processes

- Proposal Development
- Requirements Analysis
- System Architecting/Design
- Design
- Code and Unit Test
- Fabrication and Assembly
- Product Integration
- Verification
- Validation
- Production
- Field Support

Program Support Processes

- Requirements Management
- Risk Management
- Configuration and Data Management
- Program Metrics
- Decision Analysis and Resolution
- Peer Review
- Design Review
- Quality Assurance
- Integrated Logistics Support

Organizational Processes

- Process Improvement
- Training
- Division Metrics

Integrated Process Format



Overview A brief description of the process intent	
Entry Criteria State, Prerequisites, Criteria	Exit Criteria State, Criteria
Inputs Needed work products, resources	Outputs Resulting work products
Required Activities Mandatory tasks to implement the process	
Measures Process performance against plans	
Organizational Improvement Information Metrics, reusable work products	
Verification Process compliance oversight	
Tailoring Approved tailoring, process specific	
Implementation Guidance Common implementation descriptions	
Supporting Documentation and Assets Applicable organizational references	



Program evidence needed to demonstrate IPM process compliance

- Direct Artifacts
 - Tangible outputs resulting directly from implementation of a practice
 - e.g., plans, documents, products
 - Indirect Artifacts
 - Artifacts that are a side-effect or indicative of performing a practice
 - e.g., meeting minutes, reviews, logs, reports, metrics
 - Affirmations
 - Oral or written statements confirming or supporting implementation of the practice
 - e.g, interviews, questionnaires
- Required for:**
- every applicable IPM practice
 - every applicable program
- **Optional for IPM compliance (expected, but not required).**
- **In formal CMMI[®] appraisals (e.g., SCAMPISM), these are required to corroborate direct artifacts.**

Integrated Process Manual

Tailoring

1. Program Plans
2. Program process baseline
3. Program execution
4. Compliance evidence
5. QA verification
6. Non-compliance mitigation

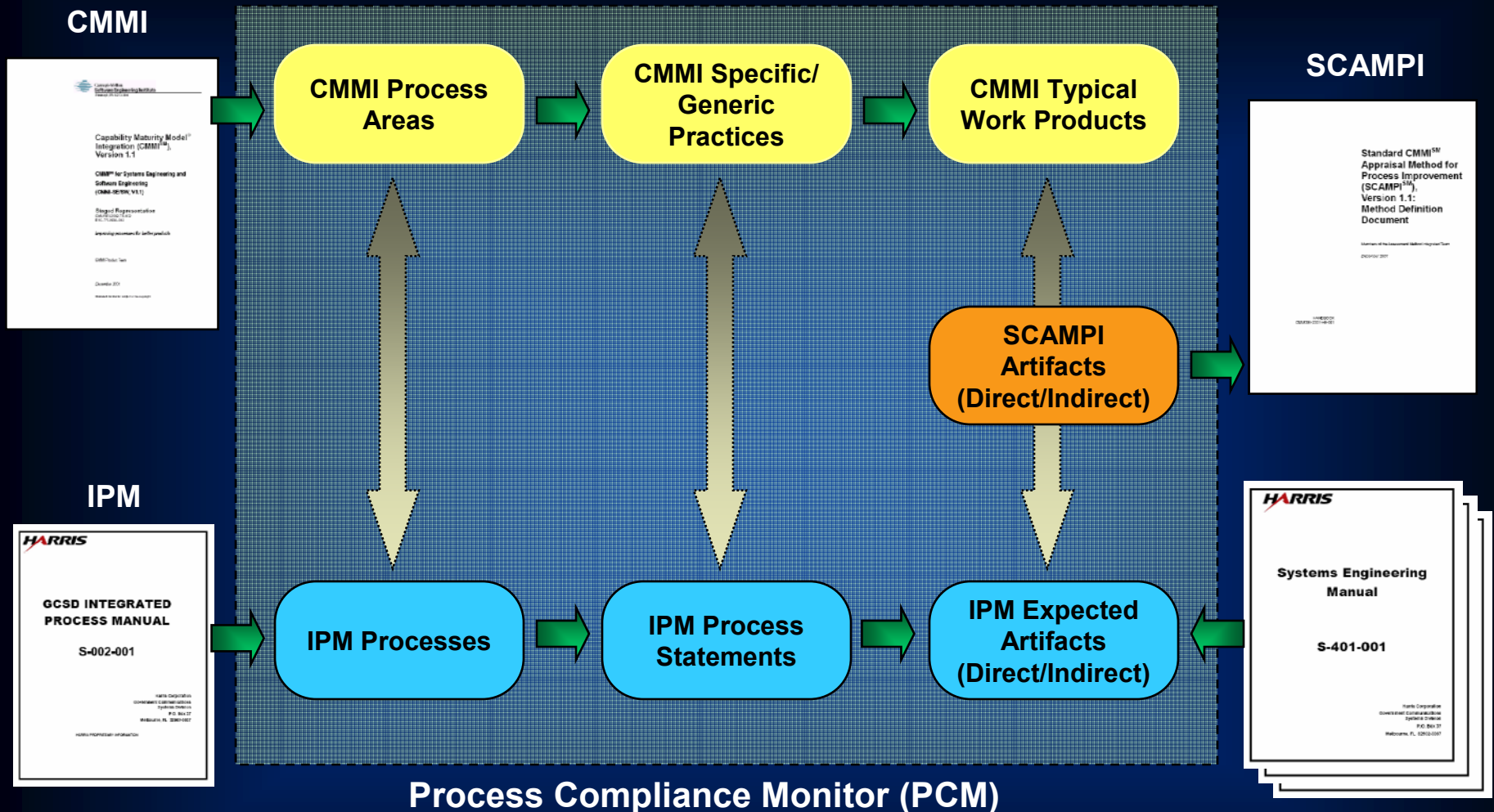
Program
Start-up

Program Phase
Execution

Program Appraisals

Process
Compliance
Monitor
(PCM)

PCM Integrates IPM & CMMI



- Functional command media
- GCSD best practices

Process Compliance Monitor

System Management

- Manage IPM content, traceability, versions (Process, section, statement, artifact, lifecycles, media x-ref)
- Manage CMMI content, traceability, versions (PA, Goal, Practice)
- Manage appraisal types, versions (QA Audits, SCAMPI*)
- Manage web page access
- Manage user roles
- Create/delete projects
- Monitor tool usage and performance

Project Management

- Open/close project
- Manage user access
- Create/tailor project process baseline
- Add/modify evidence and location for process compliance
- Monitor project process compliance (IPM, CMMI*)

Appraisal Management

- Manage appraisal access (leaders, members)
- Create/close appraisals
- Score process compliance

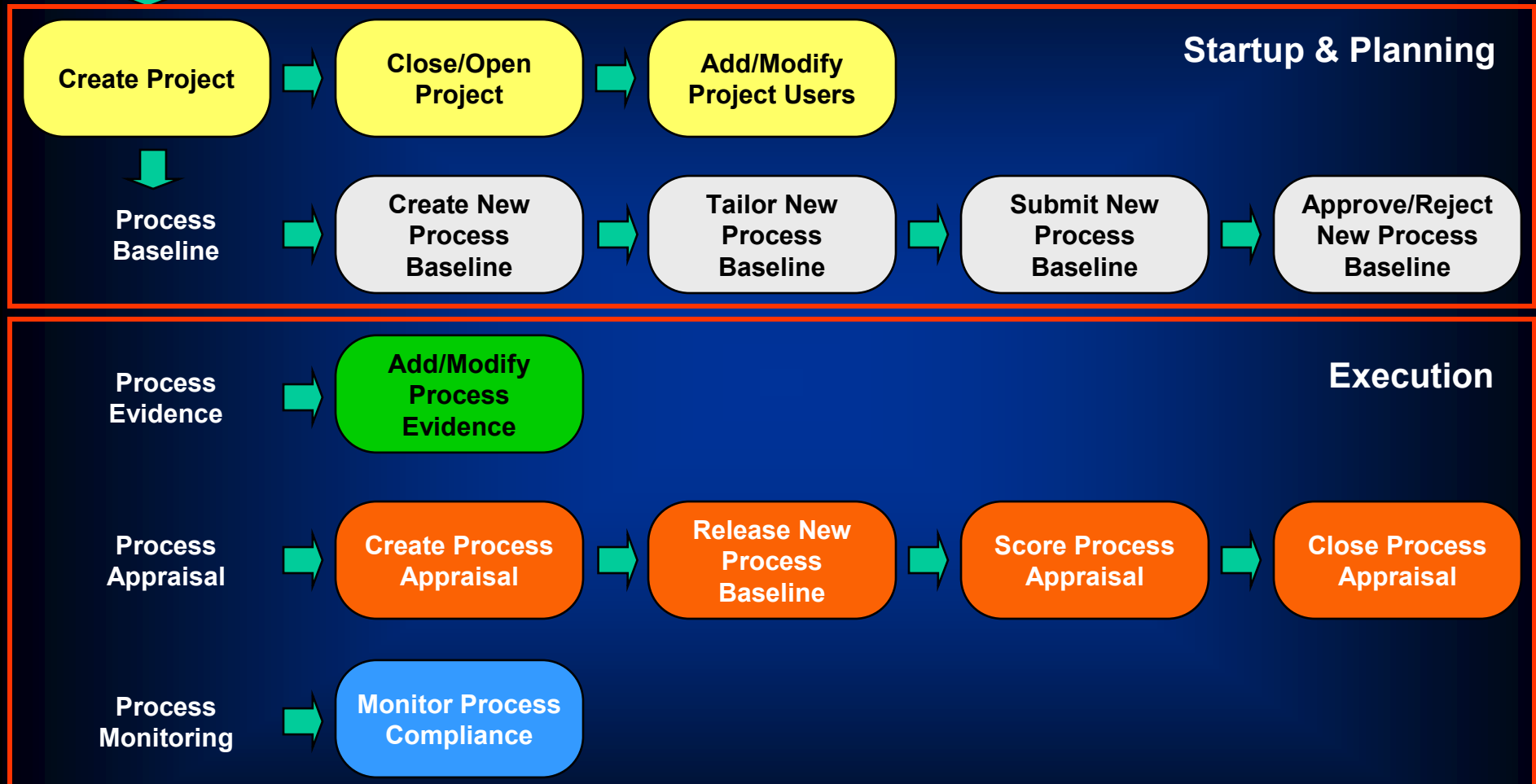
Organizational Oversight

- Approve/reject project process baseline
- Monitor project process compliance (IPM, CMMI)
- Monitor organizational process compliance (IPM, CMMI)

PCM Project Workflow



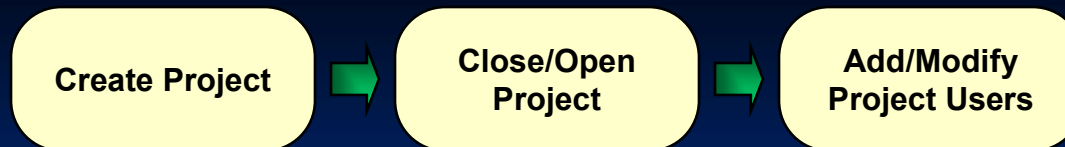
Project request
to DPG



PCM Roles



Users	Description
System Administrator	Administer all functionality of tool, access to all features of the system, create new projects, monitor tool usage/performance
General User	Read-only access to example projects
Project Administrator	Project-specific: close/open project, add/modify users, create/tailor/submit new process baseline, add/modify evidence, monitor process compliance
Project Member	Project-specific: tailor new process baseline, add/modify evidence, view appraisal scores, monitor process compliance
Division Approver	Project-specific: approve/reject new process baseline
Appraisal Administrator	Add/remove appraisal leaders, release process baseline, create/close appraisal, add/remove appraisal member, monitor process compliance
Appraisal Leader	Release new process baseline, create/close appraisal, add/remove appraisal member, score appraisal, add/modify evidence, monitor process compliance
Appraisal Member	Score appraisal, add/modify evidence, monitor process compliance
Global Reader	Monitor all projects & organization process compliance



- Roles:

- System Administrator: add/remove projects, project administrators, division approvers, appraisal administrators
- Project Administrator: add/remove project administrators, project members

Project Administration



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycmi1/

User: jcocci01 Role: Project Administrator Project: {Example Project}

Project Information

Edit Project Information Show Modification Details

Name	State	Parent	Description
{Example Project}	Open	OTHER	Example Project

Project Access

Edit Project Access

Division Approver	Project Administrator	Project Member
Hahle, Donna (dhahle)	Brock, Angela (abrock02) Cocci, James (jcocci01) Hahle, Donna (dhahle) Hein, Kevin (khein) Natwick, Gary (gnatwick)	Arnovitz, Anthony (aarnovit) Cheatwood, Billy (bcheatwo) Cocci, James (jcocci01) Draper, Geoffrey (gdraper) Hein, Kevin (khein) Natwick, Gary (gnatwick) Neely, Keith (kneely) Smith, Janet (jsmith16) Sullivan, Kellie (ksulli01) Veloske, Robert (veloske) Wolf, James (jwolf)

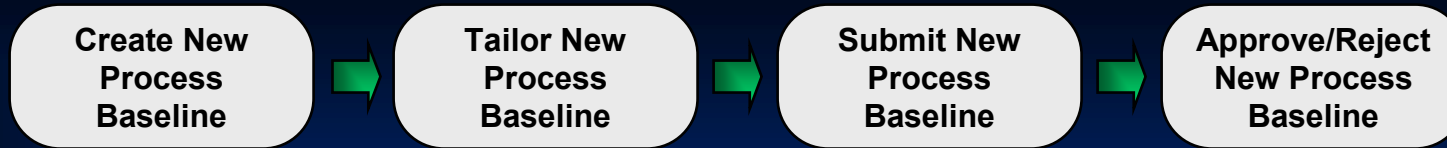
Shortcut to Evidence_Scoring.aspx

Local intranet

1:30 PM

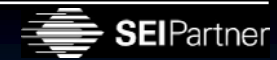
**Edit project information;
close/open project**

Edit project user access



- Roles:
 - Project Administrator: create/tailor/submit new process baseline
 - Project Member: tailor new process baseline
 - Division Approver: approve/reject new process baseline
 - Appraisal Administrator: view new process baseline
 - Appraisal Leader: view new process baseline
 - Appraisal Member: view new process baseline
 - Global Reader: view new process baseline
- New Baseline
- Filters – process, phase, artifact, tailored statements

Recording Tailored Processes



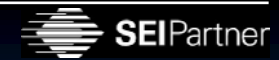
- IPM tailoring is documented in the PCM tool during initial program planning
 - Specify the planned compliance and implementation of each IPM statement and expected artifacts (optionally)
 - Tailoring codes:

Code	Description
A	<u>A</u> ccept IPM statement as written (no changes)
T	<u>T</u> ailored; description of tailoring must be specified (e.g., modifications meeting intent of IPM statement)
D	<u>D</u> eviation; program alternative to IPM statement(s), or not implemented
N	<u>N</u> ot applicable; specify rationale

Waiver approval required

- The documented tailoring is called the program's "defined process", establishing the approved baseline against which process compliance audits are performed

Tailoring IPM Processes - 1



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycmi1/

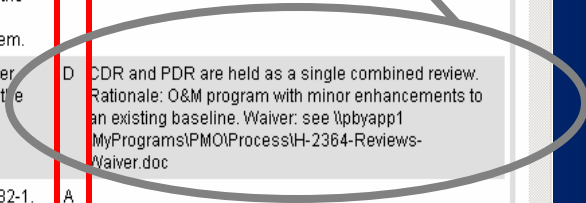
User: jcocci01 Role: Project Administrator Project: {Example Project}

Required Activities

Tag	IPM Statement	TC	Tailored Process Statement
+ Edit DR.RA.1	Plan for design reviews concurrent with overall program planning, as described in the IPM Program Planning process and the Design Review Handbook (S-408-000-3):	A	
+ Edit DR.RA.1.a	Technical Baseline Review - Conduct an internal Technical Baseline Review per form H-482-4 to ensure that the proposal is responsive to all technical requirements and evaluation factors defined in the request for proposal.	A	
+ Edit DR.RA.1.b	System Requirements Review (SRR) - Conduct an SRR per form H-482-5 to ensure that the customer and Harris have a common understanding of requirements, including verification methods.	D	SRR will be combined
+ Edit DR.RA.1.c	System Design Review (SDR) - Conduct an SDR per form H-482-6 to obtain customer agreement with the allocation of requirements to hardware, software and operations and to approve the architecture.	A	
+ Edit DR.RA.1.d	Preliminary Design Review (PDR) - Conduct a PDR per form H-482-7 to obtain customer agreement with the detailed allocations of requirements and with the design approach for each system configuration item.	A	
+ Edit DR.RA.1.e	Critical Design Review (CDR) - Conduct a CDR per form H-482-8 to obtain customer agreement with the detailed design for each configuration item.	D	CDR and PDR are held as a single combined review. Rationale: O&M program with minor enhancements to an existing baseline. Waiver: see \pbyapp1\MyPrograms\PMO\Process\H-2364-Reviews-Waiver.doc
+ Edit DR.RA.2.a	Select the design review committee per form H-482-1.	A	
+ Edit DR.RA.2.b	Schedule facilities.	A	
+ Edit DR.RA.2.c	Publish the design review notice, per form H-482-1.	A	

To tailor CDR, expand IPM statement and "Edit"

Tailoring Code (TC)
A Accept (default)
T Tailor (modified; no waiver)
D Deviation (waiver)
N/A Not applicable (outside scope)



Tailoring IPM Processes - 2



The screenshot shows the 'Process Compliance Monitor' web application in Microsoft Internet Explorer. The browser address bar shows '://pbycmi1/'. The page title is 'Process Compliance Monitor - Microsoft Internet Explorer'. The user is logged in as 'User: jcocci01'. The left navigation pane includes 'Home', 'Project', 'Project Process', 'Baseline', and 'Project Evidence'. The main content area displays a process definition for 'Critical Design Review (CDR) - Conduct a CDR per form H-482-8 to obtain customer agreement with the detailed design for each configuration item.' A dropdown menu is open, showing options: 'Deviation (waiver)', 'Accepted', 'Tailored', 'Deviation (waiver)', and 'Not Applicable'. The 'Deviation (waiver)' option is selected. Below the process definition, there are two columns: 'IPM ExpectedArtifacts' and 'Tailored Expected Artifacts'. The 'IPM ExpectedArtifacts' column lists: 'CDR materials: design review notice (form H-482-1), presentation package, attendance list, minutes, action items (form H-482-2), action item disposition (form H-482-3), and design review approval (for [Direct Artifact])', 'Completed CDR checklist (form H-482-7) [Direct Artifact]', and 'CDR milestone status on program schedule (plan vs. actual) [Indirect Artifact]'. The 'Tailored Expected Artifacts' column lists: 'Single design review package, combined with PDR.' and 'Single design review elements from both of detailed design.' A 'Save' button is visible. A yellow callout box on the left explains the tailoring code options. A yellow callout box on the right explains IPM tailoring requirements. A yellow callout box at the bottom right explains artifact tailoring options.

Tailoring Code (TC)

- Accept (default)
- Tailor (modified; no waiver)
- Deviation (waiver)
- Not applicable (outside scope)

IPM Tailoring

- Enter statement of IPM tailoring, rationale, and approach to be followed
- Reference the waiver (H-2634), if outside IPM tailoring guidelines

Artifact Tailoring (Optional)

- Identify artifacts that will be used to demonstrate compliance with program processes (tailored or not)

PCM Filters – Baselines & Tailoring



Home
Project
Project Process Baseline
Project Evidence

Project Process Baseline

Used for tailoring the Process Section Statements and Expected Artifacts for a project.

This is the initial approved baseline and it may not be tailored.

Process: {All} Phase: {All}

Artifact Keyword: _____

- Include Information-only Statements
- Display Only Statements That Have Been Tailored
- Display Only Statements Implemented Prior to IPM
- Display Only Statements That Have Changed From Prior Baseline
- Display Differences Between the Current Baseline and Prior Baseline

Apply Filters

+ Change Management
+ Code and Unit Test
+ Configuration and Data Management

Local intranet

Constrain or expand IPM content for context of tailoring

Tailored statements only

Limit display to those IPM statements fully completed prior to program transition (i.e., no evidence needed; consensus scoring)

Changes to the process baseline (deltas)

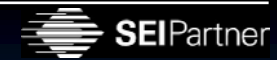
Limit PCM displays to selected IPM processes

Filter IPM statements by an artifact expected as evidence (e.g., WBS, PWA, ECMD)

Add/Modify
Process
Evidence

- Stakeholders:
 - Project Administrator – add/modify process evidence
 - Project Member – add/modify process evidence
 - Appraisal Administrator – view process evidence
 - Appraisal Leader – add/modify process evidence
 - Appraisal Member – add/modify process evidence
 - Global Reader – view process evidence
- Current baseline
- Add/modify evidence and locations
- Filters – process, phase, artifact, appraisal

Project Artifact Requirements



- The PCM identifies expected artifacts produced or available as a result of following IPM practices
 - Many expected artifacts are explicit in the IPM process statement (e.g., documentation, forms); IPM tailoring or waivers needed to deviate
 - Other artifacts are derived from division best practices or common usage
 - Project alternatives are acceptable, as long as IPM intent is satisfied
 - Tailored artifacts can optionally be identified during program planning
- QA judges compliance with the approved project process baseline by inspecting the identified artifacts
 - Artifact exists and has appropriate content (e.g., required by IPM, compliant with templates or checklists)
 - Coverage of associated program process statement
- Compliance is scored at the process statement level
 - Individual artifacts are not scored



Entering Project Artifacts



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycm1/

User: jcocci01 Role: Project Member Project: {Example Project}

Home
Project
Project Process Baseline
Project Evidence

Change Management NI: 2, PI: 4, LI: 7, FI: 7, NS: 1, NY: 1, Total: 22, Rescore: 2

+ Entry Criteria NI: 0, PI: 0, LI: 0, FI: 1, NS: 0, NY: 0, Total: 1, Rescore: 1

+ Exit Criteria NI: 0, PI: 0, LI: 0, FI: 0, NS: 0, NY: 1, Total: 1, Rescore: 0

Required Activities NI: 2, PI: 2, LI: 5, FI: 4, NS: 1, NY: 0, Total: 14, Rescore: 1

Tag	Statement	TC	Score	Valid Thru
Save CHG.RA.1	Plan change management activities for the program concurrent with overall program planning as described in the IPM Program Planning process. Describe the tailored change management processes and procedures to be used by the program, per S-458.	A	LI	
Cancel				

Select "Add" to specify artifacts for a program process statement.

Type	Expected Artifacts	Project Artifacts	Artifact Locations	
D	Change management tasks included in overall Program Plan processes, budget, schedule, staffing, tools, measures, reviews	Sample Change	Here	
+ Edit	CHG.RA.2	Establish a contract baseline against which potential changes can be evaluated, per the procedures defined in S-458.	A FI	
+ Edit	CHG.RA.3	Maintain documentation of the contract baseline on a Contractual Baseline Form (H-2515).	A LI	
+ Edit	CHG.RA.4	Establish a Program Change Review Board (PCRB), per the procedures defined in S-458.	A FI	Not all members have been named
+ Edit	CHG.RA.5	Provide change management awareness training for program team members, including a description of the program contractual baseline.	A PI	Not all applicable team members have completed the training

Done Local intranet 10:37 AM

PCM Filters – Evidence



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycmi1/

User: jcocci01 Role: Project Member Project: {Example Project}

Home
Project
Project Process Baseline
Project Evidence

Project Evidence

Filter by IPM processes applicable to current life cycle phase

Filter by expected or actual artifacts for copy/paste across applicable IPM processes (e.g., WBS, PWA, BOE, H-2517)

Constrain or expand IPM content for context of process/evidence entry

PP	FIELD	US
SAM	PI	PEER
	PROD	PMET
	PRCE	QA
	RA	REQM
	SAD	RISK
	VAL	
	VER	

Process: {All}

Phase: {All}

Artifact Keyword:

Artifact Location:

Display Information Statements

Display Only Statements Needing Project Artifacts

Appraisal Overlay

Filter by Appraisal Type: QA Audit v1.0

Select Appraisal: QA Audit v1.0 - 8 {Open}

Display All Statements

Display Only Not Yet Statements

Display Only Not Scored Statements

Display Only Fully Implemented Statements

Display Only Largely Implemented Statements

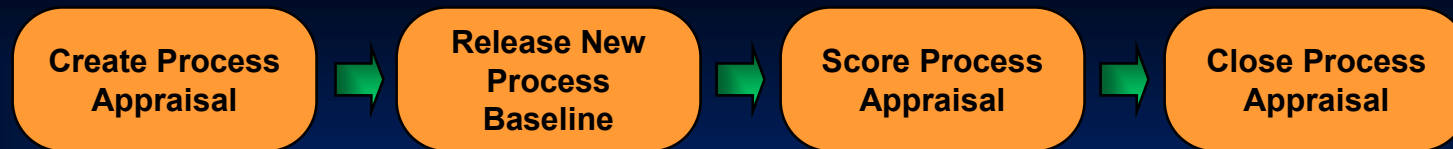
Display Only Partially Implemented Statements

Display Only Not Implemented Statements

Apply Filters

Change Management Ni: 2, Pl: 4, Ll: 7, Fl: 7, NS: 1, NY: 1, Total: 22, Rescore: 2

Code and Unit Test Ni: 0, Pl: 1, Ll: 0, Fl: 0, NS: 14, NY: 3, Total: 18, Rescore: 1



- Stakeholders:
 - Appraisal Administrator – add/remove appraisal leaders, release process baseline, create/close appraisal, add/remove appraisal member
 - Appraisal Leader – release new process baseline, create/close appraisal, score appraisal, add/remove appraisal member
 - Appraisal Member – score appraisal
- Current baseline
- When a new process baseline is released, then evidence and scores roll forward
- Score process statements
- Filters – process, phase, artifact, statements to be re-scored, scored statements

- Process compliance and process strengths/ weaknesses are assessed in many ways:
 - IPM QA process audits
 - Development Cycle Readiness Reviews (phase transitions)
 - CMMI mini-assessments
 - Formal CMMI SCAMPI assessments
 - ISO 9001 audits
 - Independent program management audits
 - Risk assessments
 - Metrics
- Process appraisal results are used to characterize, measure, and improve process effectiveness and compliance with standards
 - Action plans to address appraisal findings

Process Compliance Scores



**ASSESSMENT
STATUS COLORS**

**PROCESS COMPLIANCE
COLORS**

NY	Not Yet	<ul style="list-style-type: none"> To be appraised at a later date (i.e., the process has not yet been executed by the process and cannot be appraised)
NA	Not Applicable	<ul style="list-style-type: none"> Not applicable to the project (e.g., Code and Unit Test Process is not applicable to a production-type program)
NS	Not Scored	<ul style="list-style-type: none"> Pending an appraisal
FI	Fully Implemented	<ul style="list-style-type: none"> Direct artifacts are present and appropriate No substantial weaknesses
LI	Largely Implemented	<ul style="list-style-type: none"> Direct artifacts are present and appropriate One or more substantial weaknesses
PI	Partially Implemented	<ul style="list-style-type: none"> Direct artifact is absent or inadequate Substantiated by indirect artifact/affirmation One or more substantial weaknesses
NI	Not Implemented	<ul style="list-style-type: none"> Any situation not covered by the above

Score Process Appraisal



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycmmi1/

User: jcocci01 Role: Appraisal Leader Project: {Example Project} Appraisal: QA Audit v1.0 - 8 (Open)

Home
Appraisal
IPM Scoring

Display Only Largely Implemented Statements
 Display Only Partially Implemented Statements
 Display Only Not Implemented Statements

Change Management NI: 2, PI: 4, LI: 1
 Entry Criteria NI: 0, PI: 0, LI: 0
 Exit Criteria NI: 0, PI: 0, LI: 0
 Required Activities NI: 2, PI: 2, LI: 1

Tag	Statement	TC	Score	Valid Thru	Comment
Save CHG.RA.1	Plan change management activities for the program concurrent with overall program planning as described in the IPM Program Planning process. Describe the tailored change management processes and procedures to be used by the program, per S-458.	A	LI		
Cancel					
Type	Expected Artifacts	Project Artifacts	Artifact Locations		
D	Change management tasks included in overall Program Plan processes, budget, schedule, staffing, tools, measures, reviews	Add Sample Change	Here		
+ Edit	CHG.RA.2	Establish a contract baseline against which potential changes can be evaluated, per the procedures defined in S-458.	A	FI	
+ Edit	CHG.RA.3	Maintain documentation of the contract baseline on a Contractual Baseline Form (H-2515).	A	LI	
+ Edit	CHG.RA.4	Establish a Program Change Review Board	A	FI	Not all members have been named

Score process statement; optionally, enter date valid thru and/or update artifact. A comment MUST BE entered if not FI

Compliance Scoring Rollup



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbymmi1/

User: jcocci01 Role: Project Member Project: {Example Project}

Home
Project
Project Process Baseline
Project Evidence

Process-level Compliance Scores

- Entry Criteria: 0, Total: 1, Rescore: 1
- Exit Criteria: NI: 0, PI: 0, LI: 0, FI: 0, NS: 0, NY: 1, Total: 1, Rescore: 0
- Required Activities: NI: 2, PI: 2, LI: 5, FI: 4, NS: 1, NY: 0, Total: 14, Rescore: 1

Tag	Statement	TC	Score	Valid Thru	Comment
+ Edit CHG.RA.1	Plan change management activities for the program concurrent with overall program planning as described in the IPM Program Planning process. Describe the tailored change management processes and procedures to be used by the program, per S-458.	A	LI		
+ Edit CHG.RA.2	Establish a contract baseline against which potential changes can be evaluated, per the procedures defined in S-458.	A	FI		
+ Edit CHG.RA.3	Maintain documentation of the contract baseline on a Contractual Baseline Form (H-2515).	A	LI		
+ Edit CHG.RA.4	Establish a Program Change Review Board (PCRB), per the procedures defined in S-458.	A	FI		Not all mem
- Edit CHG.RA.5	Provide awareness training to program members, program	A	PI		Not all applicable team members have completed the training
Project Artifacts					
Artifact Locations					
+ Edit CHG.RA.6	Refine the requirements and design baseline, consistent with the contractual baseline, through a series of reviews	A	LI		

Process statement compliance score assigned by QA

Description of non-compliance

Not all applicable team members have completed the training

Done

Local intranet

10:45 AM

PCM Filters – Appraisals



Process Compliance Monitor - Microsoft Internet Explorer

Address: http://pbycmi1/

User: jcocci01 Role: Project Member Project: {Example Project}

Home
Project
Project Process Baseline
Project Evidence

Project Evidence

Filter by IPM processes applicable to current life cycle phase

Filter by expected or actual artifacts for copy/paste across applicable IPM processes (e.g., WBS, PWA, BOE, H-2517)

Constrain or expand IPM content for context of process/evidence entry

Review improvement progress over time

Filter by statements needing evidence or pending appraisal

Filter by appraisal scores to help establish improvement actions

Process: {All} Phase: {All}

Artifact Keyword: Artifact Location:

Display Information Statements
 Display Only Statements Needing Project Artifacts

Appraisal Overlay

Filter by Appraisal Type: QA Audit v1.0

Select Appraisal: QA Audit v1.0 - 8 {Open}

Display All Statements
 Display Only Not Yet Statements
 Display Only Not Scored Statements
 Display Only Fully Implemented Statements
 Display Only Largely Implemented Statements
 Display Only Partially Implemented Statements
 Display Only Not Implemented Statements

Apply Filters

+ Change Management NI: 2, PI: 4, LI: 7, FI: 7, NS: 1, NY: 1, Total: 22, Rescore: 2

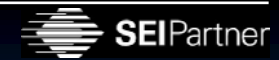
+ Code and Unit Test NI: 0, PI: 1, LI: 0, FI: 0, NS: 14, NY: 3, Total: 18, Rescore: 1

Local intranet 10:34 AM

Monitor Process Compliance

- Stakeholders:
 - Project Administrator – monitor process compliance
 - Project Member – monitor process compliance
 - Appraisal Administrator – monitor process compliance
 - Appraisal Leader – monitor process compliance
 - Appraisal Member – monitor process compliance
 - Global Reader – monitor process compliance
- Current or historical baselines
- Scoring aggregation, bands, and counts
- Filters – process, phase, artifact, appraisal, scored statements

Program Process Compliance



- Represents overall process compliance score for program
- Based on lowest color score – harsh, but in keeping with CMMI® standards

- Depicts scoring distribution over all process items
- More insight on the overall project score (A)

- Depicts score for each process executed or being executed by this program
- 3 columns identify types of processes
- In PCM, point+click on underlined acronym drills down to scoring details for the process



Project Evidence

This page allows users to edit project evidence.

 Project Score

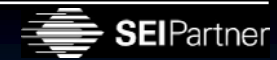
Scoring Distribution



NI: 50, PI: 75, LI: 37, FI: 427, NS: 39, NY: 2, Total: 629, Rescore: 5

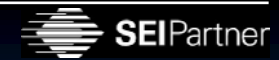
Project Management	Life Cycle	Supporting
<u>CHG</u>	<u>CUT</u>	<u>CDM</u>
<u>EST</u>	<u>DSN</u>	<u>QAR</u>
<u>PMC</u>	<u>FAB</u>	<u>OR</u>
<u>PE</u>	<u>FIELD</u>	<u>ILS</u>
<u>SAM</u>	<u>PI</u>	<u>REER</u>
	<u>PROD</u>	<u>PMET</u>
	<u>PROP</u>	<u>QA</u>
	<u>RA</u>	<u>REQM</u>
	<u>SAD</u>	<u>RISK</u>
	<u>VAL</u>	
	<u>VEB</u>	

Lessons Learned



- Establish an implementation guide for how the CMMI® is implemented in organizational/project processes
 - Internal users (projects, managers, DPG/EPG)
 - External users (customers, appraisal teams)
- Trade-off how much projects must understand CMMI® details
 - Organization/project process knowledge vs. model knowledge
- Facilitate efficient on-line access and review
 - Process baseline tailoring
 - Evidence entry and appraisal
 - Compliance monitoring
- References to evidence must be very specific
 - Expected evidence
 - Project evidence and location (hyperlinked files/directories)

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