

# SCAMPI Lead Appraiser<sup>SM</sup> Body of Knowledge (SLA BOK)

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**October 2007**

## **TECHNICAL REPORT**

CMU/SEI-2007-TR-019  
ESC-TR-2007-019

## **Software Engineering Process Management Program**

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This report was prepared for the

SEI Administrative Agent  
ESC/XPB  
5 Eglin Street  
Hanscom AFB, MA 01731-2100

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This work is sponsored by the U.S. Department of Defense. The Software Engineering Institute is a federally funded research and development center sponsored by the U.S. Department of Defense.

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## Acknowledgements

This technical report reflects the collective efforts of many individuals. The authors would first and foremost like to thank all of the participants in the SLA BOK workshop. Their work during and after the workshop became the basis for the initial draft of the SLA BOK. We would also like to thank the members of the SLA BOK Advisory Board, all of whom were workshop participants, for their input and suggestions on developmental issues and for taking the time to comment on key questions and to participate in teleconferences. The authors would like to express their sincere appreciation to the following SLA BOK workshop participants:

Pete Barletto	Venkat Gopalan	Terry Rout
Jim Belford	Will Hayes	Debra Roy
Sandi Behrens	Rick Hefner*	Charlie Ryan
Dan Bennett	Mary Anne Herndon	Nita Sarang
Dan Blazer	Barbara Hilden	Kevin Schaaff
Bruce Boyd*	Jacques Joubert*	Henry Schneider*
Paul Byrnes*	Marappa Kaliappan	Les Stammas
Laura Caldwell	Frank Koch	Bob Stoddard
Dave Card	Ron Lear*	Meenakshi Sundaresan*
Mike Campo	Anne-Sophie Luce	Agapi Svolou
Rushby Craig*	Steve Masters	Wilson Tan
Jeff Dalton	Larry McCarthy*	John Voss
Mike D'Ambrosia*	Gene McGuire	Ron Weidemann
Glyn Davies	Kathy Smith	Ed Weller
Mike Evanoo	Judah Mogilensky	Rayney Wong
Andy Felschow	Alice Parry*	Rusty Young
Jack Ferguson	Mac Patrick	Tami Zemel
Sam Fogle	Lynn Penn*	Bosheng Zhou
Hillel Glazer	Partha Ramachandran	Dave Zubrow

\* SLA BOK advisory board member

We would also like to thank all of the individuals who provided comments on both the Developer Review baseline and the Stakeholder Review baseline. We would particularly like to thank those below who provided detailed comments that were very useful.

Yan Bello	Mary Busby	Paul Byrnes
Mike Campo	Jacques Joubert	Marappa Kaliappan
Winifred Menezes	Boris Mutafelija	Pat O'Toole
Alice Parry	Channaveer Patil	Lynn Penn
Kevin Schaaff	Ed Weller	Tami Zemel

We also received many insightful comments from the following individuals who also commented on the Developer Review baseline, the Stakeholder Review baseline, or both:

Pete Barletto	Richard Basque	Frank Blucha
Laura Caldwell	Mike D'Ambrosia	Gerhard Fessler
Matt Fisher	Jose Guerrero	Jim Hart
Norm Hammock	Mary Anne Herndon	Ray Kile
Frank Koch	Mike Konrad	Anne-Sophie Luce
Daniel Luttrell	David Malas	John Miller
Marilyn Phillips	Jay Pickerill	Fernando Pinto
Robyn Plouse	Terry Rout	John Ryskowski
Clenio Salviano	Hitesh Sanghavi	Giuseppe Satriani
Kathy Smith	Steve Thomas	Jeff Welch
Rusty Young		

The authors would also like to thank everyone at the SEI who contributed to producing this document. We would like to thank Jack Ferguson, Bill Peterson, and Mike Phillips for sponsoring the work and providing us with the resources to get the job done. We would like to express our appreciation to Michele Falce and Beth Borza for all of their behind the scenes work in coordinating the SLA BOK workshop and in facilitating the SLA BOK Advisory Board teleconferences. We would also like to thank Peter Capell, Mike Konrad, Caroline Graettinger, Joanne O'Leary, Mike Phillips, and Gian Wemyss for the great job they did as facilitators at the SLA BOK workshop. Finally, we would like to thank Claire Dixon, Keith Kost, and Sandy Shrum for their assistance and editorial expertise in getting this technical report published.

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## Abstract

The Standard CMMI Appraisal Method for Process Improvement (SCAMPI<sup>SM</sup>) is designed to provide benchmark quality ratings relative to Capability Maturity Model<sup>®</sup> Integration (CMMI<sup>®</sup>) models. The role of the SCAMPI Lead Appraiser, who conducts the SCAMPI process, has developed into a distinct profession that encompasses a wide and deep array of competencies. The SCAMPI Lead Appraiser Body of Knowledge (SLA BOK) provides a multi-dimensional view of the competencies and associated skills that are needed to be a successful SCAMPI Lead Appraiser. The SLA BOK is a driver for the SEI Appraisal Program's approach to ensure quality of SCAMPI appraisals. It establishes a comprehensive basis for curriculum, training, certification, observation, and quality assurance programs.



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## Introduction

The Standard CMMI Appraisal Method for Process Improvement (SCAMPI<sup>SM</sup>) process provides benchmark quality ratings to organizations striving to achieve Capability Maturity Model<sup>®</sup> Integration (CMMI<sup>®</sup>) maturity levels. The SCAMPI Lead Appraiser role has developed into a distinct profession that encompasses a wide and deep array of competencies. The types of competencies involved have been described in the Software Engineering Institute (SEI) special report titled *CMMI<sup>®</sup>-Based Professional Certifications: The Competency Lifecycle Framework* [Behrens 2004]. The SEI Appraisal Program now recognizes a need for a documented SCAMPI Lead Appraiser Body of Knowledge (SLA BOK) to serve as a touchstone for developing strategies for certification programs, training, observations, and other related applications to support professional practice.

Successfully conducting a SCAMPI Appraisal requires several areas of expertise. First and foremost, Lead Appraisers must be well versed in the current version of the model upon which an appraisal is based and must be able to lead appraisals using the SCAMPI tools and methods, as described in the *Standard CMMI<sup>®</sup> Appraisal Method for Process Improvement (SCAMPI) A, Version 1.2: Method Definition Document (MDD)* [SEI 2006b]. They also must be skilled in a wide range of other areas that are important when they conduct appraisals, such as planning, interviewing, managing a team, judging processes, and communicating results to senior managers.

As happens in all professions, the knowledge entailed and associated competencies may grow and change over time. For this reason, the level of description in this document is general enough to allow for the flexibility of such growth and change, yet detailed enough to serve its intended uses. It captures what is currently understood to be the state of good practice for SCAMPI Lead Appraisers.

### SCOPE

The SLA BOK identifies the competencies needed to carry out the method requirements and guidelines detailed in the MDD. It is **not** intended to do the following:

- define the requirements of an appraisal
- cover the detailed CMMI practice requirements
- provide in-depth detail on high maturity practices

Implementation guidelines are addressed in other, more appropriate venues, such as courses and workshops. The SLA BOK will likely spur a community exchange of ideas regarding specific

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practical issues. Frequently, members of the professional community have published case studies and practical guidelines on CMMI topics in books and articles. The SEI anticipates that similar publication and useful discussion will follow release of the SLA BOK.

While the SCAMPI Lead Appraiser role is addressed in as much detail that is practical for a document of this nature, other roles commonly associated with Lead Appraisers, in facilitating process improvement or organizational change management, are outside the scope of the SLA BOK and are discussed only when needed to explain a competency or provide context for a description of competency.

The SLA BOK is a description of competencies that enable a Lead Appraiser to properly lead a SCAMPI v.1.2 appraisal as it applies to *CMMI<sup>®</sup> for Development, Version 1.2* [SEI 2006a]. Other applications of the SCAMPI methods, such as their use with other CMMI constellations or with People CMM<sup>®</sup>, are not currently described in the SLA BOK.

## AUDIENCES

The SLA BOK is a collection of important competencies for Lead Appraisers and therefore has many potential uses. While there may be a number of audiences that can benefit from the SLA BOK, it has the following two primary audiences:

1. **SCAMPI Appraiser community**  
SEI-authorized, certified, and candidate SCAMPI A Lead Appraisers and SCAMPI B and C Team Leaders, and individuals interested in becoming SCAMPI Appraisers
2. **SEI Appraisal Program development team**  
Individuals participating in SEI Appraisal Program development efforts including training, certification, observation, and quality assurance programs

Additional audiences include stakeholders in SCAMPI appraisals. Appraisal sponsors might use the SLA BOK to identify requirements for appraiser selection and to evaluate appraiser competencies before, during, and after the appraisal. Appraisal team members and other appraisal participants might use the SLA BOK to set expectations regarding the competencies that a SCAMPI Lead Appraiser should have.

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## SLA BOK Uses

As addressed in the Audiences section of this document, the SLA BOK will have many uses. This section provides the following examples of how the SLA BOK will be used:

- certification testing
- curriculum and training development
- observation processes or programs
- professional development

### CERTIFICATION TESTING

Certification program designers will use the SLA BOK with the Competency Lifecycle Framework to select competencies that are appropriately measured through written examination, and develop questions accordingly. The SLA BOK will guide the process of writing and validating test questions and the process of identifying coverage requirements and selection criteria to be used in generating test forms. Items from the SLA BOK will also be selected for oral examination use. In addition, identification of important prerequisites for certification presented in the SLA BOK will be part of the certification process for knowledge measurement.

### CURRICULUM AND TRAINING DEVELOPMENT

The SLA BOK will be used in conjunction with the Competency Lifecycle Framework to identify the following for curriculum and training development:

- competencies addressed in course prerequisites or otherwise assumed to be acquired and demonstrated prior to the start of courses such as *SCAMPI Lead Appraiser Training*
- competencies to be learned during a course
- input on approaches for providing course content that enables candidate Lead Appraisers to demonstrate competence in several areas
- competencies to be demonstrated and measured after a formal course is completed
- clusters of competencies and associated knowledge areas that will be used to construct course materials, case studies, exercises, and other important course components
- guidance for revisions and updates of existing courses, particularly the *SCAMPI Lead Appraiser Training*, *Understanding CMMI High Maturity Practices*, and *SCAMPI B and C Team Leader Training* courses currently offered by the SEI

Academic programs in software engineering or related fields might also use the SLA BOK to help undergraduate and graduate students develop knowledge about the essential competencies required for the appraisal process.

## **OBSERVATION PROCESSES OR PROGRAMS**

SCAMPI Lead Appraiser observation tool and training development will use the SLA BOK to revise and update the existing Observation Worksheet and to develop observation training materials. The worksheet and training materials will then better reflect the community consensus regarding the skills and competencies a Lead Appraiser must, as a minimum, demonstrate when being formally observed. In this case, the SLA BOK will be used with the Competency Lifecycle Framework to identify SCAMPI Lead Appraiser candidate competencies and skills that will be observed and measured during a formal observation.

The SLA BOK also suggests the competencies and skills needed by a SCAMPI Observer, some of which will be identified as those to be taught or measured during the qualification process of observers.

## **PROFESSIONAL DEVELOPMENT**

Any current Lead Appraiser could use The SLA BOK to conduct a competency gap analysis to find areas for professional development. It might also be used to understand knowledge gaps in appraisal teams.

Prospective Lead Appraisers could use the SLA BOK to begin to understand what will be expected in the future if they follow the path toward becoming Lead Appraisers.

# SLA BOK Structure

## ORGANIZATIONAL FRAMEWORK

It is important to understand the relationship of the SLA BOK to the Competency Lifecycle Framework. The SLA BOK documents the essential competencies that a SCAMPI Lead Appraiser must possess and demonstrate in order to be certified. The Competency Lifecycle Framework provides an approach to enable Lead Appraisers to develop their competencies to the point where they satisfy the expectations of the SLA BOK.

The SLA BOK is organized by competency clusters and knowledge areas as depicted in the following figure. See Appendix B for a detailed version of this table that contains all of the individual competencies.

Knowledge Area	Competency Cluster								
	Achieving and Managing Agreements	Decision Making and Problem Solving	Project Planning and Management	Interpersonal Communication and Facilitation	Integration, Articulation, and Expression of Information	Understanding and Adapting to Organization Context	Model Interpretation	SCAMPI Method Tailoring, Adaptation, and Application	Professionalism
Appraisal Planning									
Preparing Team and Participants									
Managing Objective Evidence									
Judging Processes									
Reporting Outcomes									

Individual competencies (CMP)

- Associated skills
- Related competencies
- Examples
- High Maturity Skills

Figure 1: SLA BOK Structure

## Competency Clusters (CC)

The competency clusters that serve as the organizing framework of this document are defined as “a set of key competencies that are similar in nature to each other, and that together enable the individual to perform characteristic tasks for a particular role” [Behrens 2004].

There are nine SLA BOK competency clusters:

1. **Achieving and Managing Agreements**  
Achieving and Managing Agreements is the ability to reach, manage, and support clear and mutually satisfactory agreements with sponsors, appraisal participants, and other relevant stakeholders. It also includes monitoring compliance to agreements, and taking appropriate corrective action when one or more parties to the agreement no longer finds it workable. A Lead Appraiser is expected to ensure that all agreements needed for an appraisal are properly established and managed.
2. **Decision Making and Problem Solving**  
Decision Making and Problem Solving is the ability to identify issues and potential solutions, evaluate advantages and drawbacks of each strategy, and to choose a suitable

solution using a decision-making method appropriate to the context. It also may include awareness of a variety of decision-making strategies and techniques, and the strengths and weaknesses of each. A Lead Appraiser is expected to make timely and effective decisions, accounting for relevant considerations and perspectives.

3. **Project Planning and Management**

Project Planning and Management is the ability to treat SCAMPI appraisals as projects, and to plan and manage these projects appropriately in areas such as monitoring appraisal status and progress, and identifying, assessing and mitigating risks. It also may include documenting plans, collecting status information, sharing information with stakeholders, and taking appropriate corrective action when actual status deviates significantly from plans. A Lead Appraiser is expected to manage appraisal team performance and ensure that key milestones are achieved in a timely fashion.

4. **Interpersonal Communication and Facilitation**

Interpersonal Communication and Facilitation is the ability to hold successful discussions with individuals and groups with a balanced focus on effective listening and effective speaking. It also may include conducting interviews, moderating group and team discussions, establishing a comfortable and encouraging atmosphere for interviews and discussions, identifying and addressing tension or discomfort, and developing effective strategies for conflict resolution. A Lead Appraiser is expected to communicate effectively with sponsors and appraisal participants. A Lead Appraiser is also expected to foster an atmosphere that allows appraisal team members and other appraisal participants to express themselves openly and honestly.

5. **Integration, Articulation, and Expression of Information**

Integration, Articulation, and Expression of Information is the ability to aggregate separate but related items of information, to communicate clearly and accurately, and to present information effectively, either orally or in writing. It also may include finding the right phrasing or terminology to convey key points in a given context, and to abstract essential ideas from a large amount of detailed information. A Lead Appraiser is expected to effectively analyze, integrate, and articulate information throughout the appraisal processes.

6. **Understanding and Adapting to Organizational Context**

Understanding and Adapting to Organizational Context is the ability to identify and understand defining aspects of an organization's culture, and to adjust behavior to more effectively operate within that culture. It also may include identifying key questions and key observations that highlight cultural issues, making appropriate personal adjustments such as attire, terminology, and speech patterns. It also involves understanding the common cultural patterns typically found in specific industries or regions. A Lead Appraiser is expected to work flexibly and effectively within the context of an organization to ensure appraisal results that are accurate, understood, and accepted.

7. **Model Interpretation**

Model interpretation is the ability to consider how various CMMI model goals and practices can be implemented in different industries and project types. It also may include mapping model terminology and concepts to corresponding local terminology and concepts, recognizing which aspects of practices are critically important in a given context and which are relatively unimportant, and understanding how local alternative practices can contribute

effectively to goal satisfaction. A Lead Appraiser is expected to interpret and apply the CMMI model appropriately in real-world situations.

8. **SCAMPI Method Tailoring, Adaptation, and Application**

SCAMPI Method Tailoring, Adaptation, and Application is the ability to understand the full range of options available in the SCAMPI appraisal method, and to choose appropriate options for the circumstances surrounding a particular appraisal. Options or adaptations chosen should preserve the integrity and essential features of the SCAMPI method, while still accommodating any special local needs or circumstances (e.g., unconventional scheduling and appraisal participants at multiple distant locations). A Lead Appraiser is expected to demonstrate a thorough knowledge of the SCAMPI method rules, guidelines, and tailoring options.

9. **Professionalism**

Professionalism is the ability to understand the behavioral obligations of the SEI Code of Professional Conduct, and the willingness and ability to abide by these behavioral obligations under all circumstances. It also may include managing and continuing professional growth and development, contributing to the knowledge base of practitioners through such means as professional papers, presentations, or shared artifacts, and acting at all times in a way that brings credit to the professional community. A Lead Appraiser is expected to maintain the highest standards of ethical behavior and to serve as a model for others to follow.

### **Knowledge Areas (KA)**

A knowledge area is a major category of Lead Appraiser knowledge that is defined by the appraisal functions in the SCAMPI MDD.

There are five SLA BOK knowledge areas:

1. **Appraisal Planning**

This knowledge area encompasses working with the sponsor to establish the objectives and constraints of the appraisal, determining the scope and other planning details of the appraisal, and preparing the required planning documents. It includes MDD activities 1.1.1-1.1.5 and 1.2.1-1.2.6.

2. **Preparing Team and Participants**

This knowledge area encompasses selecting team members, training the team, assigning roles to team members, determining the readiness of the team, and preparing participants. It includes MDD activities 1.3.1-1.3.3, 1.5.1, and 2.1.1.

3. **Managing Objective Evidence**

This knowledge area encompasses planning for the review and collection of objective evidence through examining documents and conducting interviews. It also involves consolidating information, which includes identifying needs for additional information. It includes MDD activities 1.4.1-1.4.2, 1.5.1-1.5.3, 2.2.1, 2.2.2, 2.3.1-2.3.4, and 2.4.1.

4. **Judging Processes**

This knowledge area encompasses characterizing practices, preparing and validating preliminary findings (which may include weaknesses and strengths), rating goals, and generating results (which may include findings, recommendations, and ratings), as applied to prac-

tices, goals, and PAs at all maturity and capability levels. It includes MDD activities 2.4.2, 2.5.1, and 2.6.1-2.6.4.

## 5. **Reporting Outcomes**

This knowledge area encompasses delivering final findings, conducting executive sessions, collecting appraisal lessons learned, and providing results to the CMMI Steward. It includes MDD activities 3.1.1-3.1.3 and 3.2.1-3.2.4.

It is important to note that there is overlap between some of the definitions of the knowledge areas and the competency clusters. For example, the Appraisal Planning knowledge area refers to the skills and abilities that a Lead Appraiser needs in order to carry out the SCAMPI activities related to appraisal planning, which will include the Project Planning and Management competency cluster. Appraisal Planning will also include other competency clusters, such as SCAMPI Method Tailoring, Adaptation, and Application. On the other hand, the Project Planning and Management competency cluster will contain competencies not only in support of Appraisal Planning, but also in support of other knowledge areas, such as Managing Objective Evidence. In some ways, the relationship between knowledge areas and competency clusters is analogous to the relationship in the CMMI model between process areas and generic practices.

Within each knowledge area in the SLA BOK, there are competencies and supporting material. The following definitions describe competencies and supporting material.

### **Competencies (CMP)**

A competency has been defined in the People CMM as “an underlying characteristic of an individual that is causally related to effective or superior performance, as determined by measurable, objective criteria” [Curtis 2002]. Lead Appraisers may not need to exercise every competency in every appraisal, but they are expected to have the competencies. For each competency cluster, the SLA BOK identifies the key competencies for the five knowledge areas. A total of 105 competencies have been identified. The competencies are listed in appendix A.

### **Associated Skills**

Within each competency, a set of associated skills is listed. These are the skills that Lead Appraisers need in order to demonstrate that they have the important competencies. In some cases, they may also serve as an example implementation of the competency. Skills are to be interpreted in the context of the competency as well as the knowledge area and competency cluster under which they appear.

### **High Maturity Skills**

Where appropriate, high maturity skills are listed. High maturity skills are skills that are important for conducting high maturity appraisals and are primarily demonstrated during high maturity appraisals. There are nine competencies that contain high maturity skills:

1. CMP 3.2.1 Selecting appraisal team members
2. CMP 5.5.2 Delivering appraisal results
3. CMP 6.1.2 Clarifying the OU’s process improvement history

4. CMP 6.1.3 Understanding the OU's business context and drivers for process improvement
5. CMP 6.2.1 Identifying and managing language issues
6. CMP 6.4.4 Recognizing mature organizational behavior
7. CMP 7.2.1 Preparing appraisal team members for model interpretation
8. CMP 7.4.1 Evaluating implementations of CMMI practices
9. CMP 8.5.1 Completing the Appraisal Disclosure Statement (ADS)

### **Examples**

Examples are provided when a description of a real world context might help to describe or clarify the intention of the stated competency.

### **Related Competencies**

This section names associated competencies and directs the reader to their location in the SLA BOK. The related competencies for each competency are listed in appendix C.

### **Suggested Readings**

Some competency clusters contain a list of suggested readings for additional information that may be helpful for understanding the competencies and related concepts. We have not listed *CMMI for Development Version 1.2* or the *SCAMPI A, Version 1.2 MDD* as suggested readings in any competency cluster because they serve as the foundation for the entire SLA BOK. The suggested readings lists appear at the end of a competency cluster section.

## **TYPOGRAPHICAL CONVENTIONS**

The typographical conventions used in the SLA BOK were designed to enable the user to select what's needed and use it effectively. The SLA BOK's components are in formats that allow for their quick location on the page.

Figures 2 and 3 show the various SLA BOK components with identifying labels. The components differ typographically so that each can be easily identified.

## **FEEDBACK INFORMATION**

We are very interested in your ideas for improving this document. See the CMMI Web site for information on how to provide feedback:

<http://www.sei.cmu.edu/cmmi/models/change-requests.html>.

If you have any questions, send an email to [cmmi-comments@sei.cmu.edu](mailto:cmmi-comments@sei.cmu.edu).

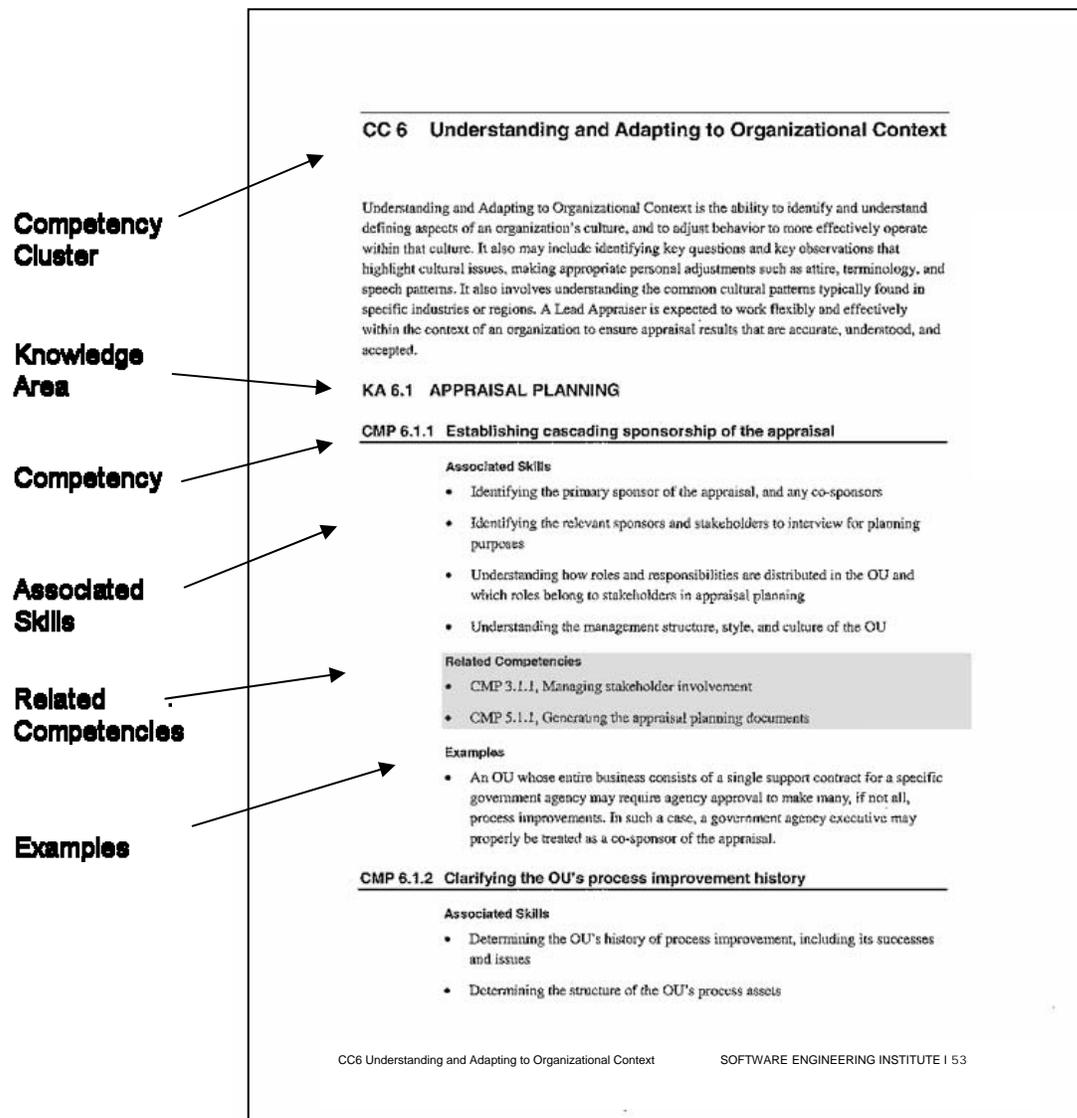
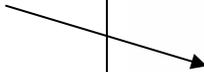


Figure 2: Sample Page from CC 6

High Maturity Skills



- Determining currently applicable standards and models
- Determining the OU's approach to process improvement
- Determining the presence or absence of non-CMMI process or quality improvement initiatives, either formal or informal

**High Maturity Skills**

- Determining CMMI process implementations that may impact appraisal planning including both high maturity practice implementations and other practice implementations

**CMP 6.1.3 Understanding the OU's business context and drivers for process improvement**

**Associated Skills**

- Understanding the OU's business objectives, market, and product domain
- Becoming familiar with the OU's mission, vision, and values, and identifying aspects that are relevant to appraisal planning
- Establishing the purpose of the current SCAMPI appraisal
- Determining the fundamental organizational structure
- Determining the project mix, sizes of projects, and types of projects
- Determining the mix of employees' backgrounds and experience
- Determining the OU's geographical distribution
- Identifying and using sources of local cultural knowledge

**High Maturity Skills**

- Determining the relationship of business goals and concerns to the definition of quantitative targets, the establishment of baselines and models, and the selection of subprocesses to be statistically controlled

**Related Competencies**

- CMP 6.4.2, Understanding business goals and concerns as they impact process judgments
- CMP 6.5.4, Recommending next steps for process improvement to the OU
- CMP 7.1.1, Interpreting the model in the context of the OU's structure and business goals

CC6 Understanding and Adapting to Organizational Context

Figure 3: Sample Page from CC 6



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## CC 1 Achieving and Managing Agreements

Achieving and Managing Agreements is the ability to reach, manage, and support clear and mutually satisfactory agreements with sponsors, appraisal participants, and other relevant stakeholders. It also includes monitoring compliance to agreements and taking appropriate corrective action when one or more parties to the agreement no longer finds it workable. A Lead Appraiser is expected to ensure that all agreements needed for an appraisal are properly established and managed.

### KA 1.1 APPRAISAL PLANNING

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#### CMP 1.1.1 Negotiating in the context of appraisal planning

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##### Associated Skills

- Understanding differing views and opinions
- Identifying and articulating key perspectives
- Identifying innovative and creative solutions
- Negotiating an agreement that satisfies the interests of all parties
- Using objective criteria to evaluate proposed agreements
- Negotiating realistic agreements
- Negotiating agreements that preserve a positive working relationship among the appraisal participants

##### Related Competencies

- CMP 4.1.1, Eliciting information needed to effectively plan the appraisal

##### Examples

- The process and criteria used for selecting appraisal participants are negotiated with the appraisal sponsor and documented in the appraisal plan with the rationale for each choice.

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#### CMP 1.1.2 Achieving agreements related to planning

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##### Associated Skills

- Understanding agreements made prior to formal planning activities and determining how they might affect appraisal planning
- Identifying stakeholders for the appraisal, as well as their needs, abilities, and limitations

- Involving stakeholders from the beginning
- Establishing a climate of trust and openness that supports further agreements and planning activities
- Identifying and considering all agreements (tangible and intangible) that affect planning
- Ensuring that commitments are clearly defined and documented

#### **Related Competencies**

- CMP 3.1.1, Managing stakeholder involvement
- CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

#### **Examples**

- The sponsor signs a baseline version of the appraisal input and appraisal plan before the readiness review begins.

### **CMP 1.1.3 Managing agreements related to planning**

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#### **Associated Skills**

- Monitoring planning-related agreements and ensuring they are followed
- Observing, recognizing, validating, and reporting levels of commitment
- Informing stakeholders of status as agreements change and actions are addressed
- Using appropriate methods and techniques when changes to agreements are needed
- Renegotiating and changing agreements as required
- Identifying untenable situations that jeopardize the completion of the appraisal
- Notifying relevant stakeholders promptly when a commitment cannot be met
- Escalating to higher levels when appraisal related commitments are not being met

#### **Related Competencies**

- CMP 3.1.1, Managing stakeholder involvement

#### **Examples**

- When the agreement regarding the site coordinator's responsibilities is not followed, the problem is escalated to the appraisal sponsor.

## KA 1.2 PREPARING TEAM AND PARTICIPANTS

### CMP 1.2.1 Achieving agreements with appraisal team members and other appraisal participants

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#### Associated Skills

- Negotiating appraisal team preparation activities with appraisal team members and other appraisal participants
- Communicating expectations for appraisal team member participation and time commitment
- Establishing the appraisal team's rules of engagement that define team norms and behavior standards
- Communicating the interview schedule and findings validation schedule to appraisal team members and interviewees
- Communicating appraisal team commitments to the team members' supervisors and obtaining agreements that ensure that team members are able to devote their full attention to the appraisal during the on-site period
- Communicating the required appraisal commitments to appraisal team members and other appraisal participants, and replacing those who cannot or will not agree to the needed commitments

#### Related Competencies

- CMP 3.2.2, Defining the appraisal team roles and responsibilities

#### Examples

- The initial set of appraisal team norms are agreed on during appraisal team training.

### CMP 1.2.2 Managing agreements with appraisal team members and other appraisal participants

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#### Associated Skills

- Communicating to appraisal team members and other appraisal participants the process used to manage changes to agreements
- Establishing roles and responsibilities for approving agreements changes
- Communicating approved agreements changes to appraisal team members and other appraisal participants
- Evaluating, negotiating, and implementing approved changes to agreements

### Examples

- Appraisal team norms are updated to address issues that impact the efficiency of the team.

## **CMP 1.2.3 Setting expectations with appraisal team members and other appraisal participants**

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### Associated Skills

- Managing the Lead Appraiser's time for preparing appraisal team members and other appraisal participants relative to other commitments
- Establishing and communicating the mitigation plan if the appraisal sponsors, appraisal team members, or other appraisal participants do not live up to their commitments
- Informing appraisal team members and other appraisal participants about their required attendance at various appraisal activities
- Informing the appraisal participants that they may be asked to participate in other appraisal activities in addition to those formally scheduled
- Explaining to appraisal team members how team activities will be managed

### Related Competencies

- CMP 3.1.1, Managing stakeholder involvement
- CMP 3.2.2, Defining the appraisal team roles and responsibilities

### Examples

- A site coordinator may be used to communicate expectations regarding attendance at designated appraisal activities.

## **KA 1.3 MANAGING OBJECTIVE EVIDENCE**

### **CMP 1.3.1 Achieving agreements with the organizational unit (OU) regarding providing of objective evidence**

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#### Associated Skills

- Reaching agreement with the OU regarding the amounts and types of objective evidence that it must provide before or during the appraisal
- Ensuring that a plan is defined and executed that covers how and when data will be collected and made available to the appraisal team members
- Ensuring that appraisal tools to be used for data collection, evidence review, and data consolidation are defined, agreed upon, and in place

#### **Related Competencies**

- CMP 3.1.4, Establishing and maintaining the appraisal schedule
- CMP 4.3.1, Communicating to the OU the objective evidence that is needed

#### **Examples**

- The appraisal participants' expectations are set so that all practice implementation indicator descriptions (PIIDs) are provided before the readiness review begins

### **CMP 1.3.2 Managing agreements with the OU regarding providing of objective evidence**

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#### **Associated Skills**

- Monitoring the status of these agreements
- Taking corrective action when needed
- Communicating to appraisal team members, sponsor, site coordinator, and other appraisal participants the status and progress of objective evidence collection
- Communicating to appraisal team members, sponsor, site coordinator, and other appraisal participants the approved changes to these agreements
- Evaluating, negotiating, and implementing approved changes to the agreements

#### **Examples**

- Feedback is provided to the OU regarding the relevance and appropriateness of objective evidence received thus far.

## **KA 1.4 JUDGING PROCESSES**

No competencies are stipulated for this knowledge area.

## **KA 1.5 REPORTING OUTCOMES**

### **CMP 1.5.1 Achieving agreements with affected stakeholders related to reporting appraisal outcomes**

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#### **Associated Skills**

- Ensuring that all relevant stakeholders understand the restrictions on the use of appraisal outputs
- Explaining to stakeholders the appropriate or intended use of outcomes
- Ensuring that the sponsor, appraisal team members, and other appraisal participants understand the agreements regarding confidentiality and non-attribution that persist after the completion of the appraisal

- Clarifying the OU's ongoing responsibility to preserve the appraisal record
- Ensuring the sponsor understands the requirements for cooperating with the CMMI Steward's quality reviews

#### **Related Competencies**

- CMP 8.5.4, Informing the sponsor of the method requirements that affect the OU
- CMP 9.5.1, Maintaining non-attribution in reporting outcomes
- CMP 9.5.2, Protecting confidentiality in reporting outcomes

## **SUGGESTED READINGS FOR CC 1**

Block, Peter. *Flawless Consulting (Second Edition) and The Flawless Consulting Fieldbook*. Pfeiffer, 2000.

Karten, Naomi. *Managing Expectations: Working with People Who Want More, Better, Faster, Sooner, Now!* Dorset House Publishing, 1994.

Weiss, Alan. *Process Consulting: How to Launch, Implement, and Conclude Successful Consulting Projects (The Ultimate Consultant Series)*. Pfeiffer, 2002.

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## CC 2 Decision Making and Problem Solving

Decision Making and Problem Solving is the ability to identify issues and potential solutions, evaluate advantages and drawbacks of each strategy, and choose a suitable solution using a decision-making method appropriate to the context. It also may include awareness of a variety of decision-making strategies and techniques, and the strengths and weaknesses of each. A Lead Appraiser is expected to make timely and effective decisions, accounting for relevant considerations and perspectives.

### KA 2.1 APPRAISAL PLANNING

#### CMP 2.1.1 Applying appropriate decision-making strategies in appraisal planning

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##### Associated Skills

- Identifying various planning alternatives and the advantages and disadvantages associated with each
- Identifying and evaluating risks for various planning alternatives
- Establishing a decision-making process for decisions that must be made for appraisal planning
- Ensuring that the planning decisions support the appraisal objectives
- Achieving a balanced mix of skills and resources required for the appraisal

##### Related Competencies

- CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

##### Examples

- The coverage desired for various parts of the OU is determined and then, based on that coverage, sampling and tradeoff strategies are used to select the focus and non-focus projects for the appraisal.

### KA 2.2 PREPARING TEAM AND PARTICIPANTS

#### CMP 2.2.1 Establishing decision-making and problem-solving techniques that appraisal team members will use

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##### Associated Skills

- Training appraisal team members to effectively use the consensus process
- Practicing using consensus decision making in early appraisal team activities

- Defining and communicating problem-solving techniques to appraisal team members
- Consistently applying the selected decision-making and problem-solving techniques

#### **Related Competencies**

- CMP 2.4.1, Defining the process for achieving consensus on the appraisal team
- CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal

#### **Examples**

- The consensus process is defined that requires all appraisers on the team to visibly participate (e.g., show their thumbs) in a decision for consensus to be achieved.

### **CMP 2.2.2 Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU**

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#### **Associated Skills**

- Establishing and communicating explicit criteria for determining the readiness of the appraisal team and OU
- Reviewing the state of readiness of the appraisal team and OU against established criteria
- Determining how to proceed based on appraisal team and OU readiness
- Determining and communicating whether the appraisal will be on schedule, be delayed by a specific amount of time, or be delayed indefinitely, based on the readiness criteria and the state of appraisal team and OU readiness

#### **Related Competencies**

- CMP 2.3.1, Deciding on the feasibility of the appraisal plan based on the status of objective evidence

## **KA 2.3 MANAGING OBJECTIVE EVIDENCE**

### **CMP 2.3.1 Deciding on the feasibility of the appraisal plan based on the status of objective evidence**

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#### **Associated Skills**

- Establishing and communicating with the OU and the appraisal team the explicit criteria for determining the readiness of objective evidence

- Reviewing the current inventory of objective evidence and identifying the model practices for which the objective evidence is inadequate relative to the appraisal plan
- Determining how to proceed based on the status of objective evidence
- Determining and communicating with the OU and the appraisal team whether the appraisal will be on schedule, be delayed by a specific amount of time, or be delayed indefinitely, based on readiness criteria and the aggregate state of the objective evidence

#### **Related Competencies**

- CMP 2.2.2, Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU
- CMP 4.3.1, Communicating to the OU the objective evidence that is needed

#### **Examples**

- Criteria are established that require that no significant holes can be present in the PIIDs for any practice for any project or support group in the scope of the appraisal before the appraisal can proceed as planned.

## **KA 2.4 JUDGING PROCESSES**

### **CMP 2.4.1 Defining the process for achieving consensus on the appraisal team**

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#### **Associated Skills**

- Defining a process that ensures that everyone on the appraisal team can accept and support the decision
- Ensuring that all appraisal team members feel that their point of view has been heard by the rest of the team members
- Ensuring that appraisal team members are not unduly influenced to support a decision
- Managing appraisal team members' use of the consensus process in mini-teams and full-team situations

#### **Related Competencies**

- CMP 2.2.1, Establishing decision-making and problem-solving techniques that appraisal team members will use

#### **Examples**

- A process for consensus is defined that requires that a mini-team member first propose a decision, and then consensus of the team can be tested. If there is

consensus, the team is finished with that decision. If not, there is discussion of the relevant issues until a mini-team member is ready again to propose a decision and test consensus. The process continues until consensus is reached.

## **CMP 2.4.2 Facilitating problem-solving and decision-making activities**

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### **Associated Skills**

- Maintaining participation of appraisal team members during problem solving and decision making
- Eliciting rationale from each team member which supports his or her opinion
- Refraining from personally making a decision before appraisal team members have fully participated
- Discerning when enough time has been spent in problem solving and being able to get appraisal team members to make a decision
- Realizing when the appraisal team members' knowledge or information is insufficient for making a decision and being able to seek supplementary information
- Resolving issues when the item in question is not well understood by all appraisal team members
- Adjusting decision-making approaches used by appraisal team members when they are having difficulties

### **Examples**

- In a situation where one team member is dominating the discussion and other team members are simply agreeing, asking that the dominating team member wait to until other team members are heard before offering his or her opinion.

## **KA 2.5 REPORTING OUTCOMES**

### **CMP 2.5.1 Facilitating the resolution of problems and issues raised during reporting activities**

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#### **Associated Skills**

- Ensuring that decisions made by the appraisal team are supported by all team members in public settings
- Ensuring that non-attribution and confidentiality rules are adhered to in the face of pressure to violate them
- Working collaboratively with the CMMI Steward to resolve quality issues

### Examples

- If during the final findings presentation or executive briefing, someone asks an appraisal team member for the source of information for a specific finding, the reaction should be to say that non-attribution is still in effect and that the source information cannot be provided.

## SUGGESTED READINGS FOR CC 2

Patterson, Kerry, Grenny, Joseph, McMillan, Ron, & Switzler, Al. *Crucial Conversations: Tools for Talking When Stakes Are High*. McGraw-Hill, 2002.

Scholtes, Peter. *The Team Handbook: How to Use Teams to Improve Quality*. Oriel, Incorporated, 1988.

Silberman, Mel. *The Consultant's Toolkit: High-Impact Questionnaires, Activities and How-to Guides for Diagnosing and Solving Client Problems*. McGraw Hill, 2000.

Simon, Herbert A. *Models of Bounded Rationality, Volume 1: Economic Analysis and Public Policy*. The MIT Press, 1984.

Simon, Herbert A. *The Sciences of the Artificial*, 3rd ed. The MIT Press, 1996.



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## CC 3 Project Planning and Management

Project Planning and Management is the ability to treat SCAMPI appraisals as projects, and to plan and manage these projects appropriately in areas such as monitoring appraisal status and progress, and identifying, assessing and mitigating risks. It also may include documenting plans, collecting status information, sharing information with stakeholders, and taking appropriate corrective action when actual status deviates significantly from plans. A Lead Appraiser is expected to manage appraisal team performance and ensure that key milestones are achieved in a timely fashion.

### KA 3.1 APPRAISAL PLANNING

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#### CMP 3.1.1 Managing stakeholder involvement

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##### Associated Skills

- Identifying stakeholders who will be affected by the appraisal
- Planning stakeholder involvement
- Informing stakeholders of their roles and responsibilities for the appraisal
- Informing stakeholders of how the appraisal results will be communicated
- Monitoring stakeholder involvement
- Managing commitments and changes to commitments of appraisal team members and other stakeholders' participation in the appraisal
- Tracking the participation of appraisal team members and other appraisal participants and, when necessary, taking corrective action to bring participation back into conformance with the plans

##### Related Competencies

- CMP 1.1.2, Achieving agreements related to planning
- CMP 1.1.3, Managing agreements related to planning
- CMP 1.2.3, Setting expectations with appraisal team members and other appraisal participants
- CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
- CMP 4.2.4, Providing orientation to appraisal participants on the appraisal event
- CMP 6.1.1, Establishing cascading sponsorship of the appraisal

### **Examples**

- Stakeholders affected by the appraisal include the sponsor, the sponsor's management team members, appraisal team members, other appraisal participants, and key customers.
- The sponsor should commit to assigning the necessary resources (appraisal team members and other appraisal participants) to specific amounts of time when the sponsor agrees to having the appraisal.

## **CMP 3.1.2 Employing risk management techniques in the appraisal planning process**

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### **Associated Skills**

- Identifying potential risks
- Determining approaches to mitigating risks
- Using contingency and management reserves appropriately
- Ensuring the risk management strategy accounts for the OU's process improvement history
- Assessing levels of risk and setting contingency triggers
- Describing and including mitigation and contingency planning activities in the overall appraisal plan

### **Examples**

- Alternate appraisal team members are identified. They are required to attend appraisal team training to mitigate any risk imposed should a team member be unable to support the appraisal.

## **CMP 3.1.3 Addressing logistical considerations**

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### **Associated Skills**

- Arranging for necessary equipment and facilities
- Accommodating appraisal team members' and other appraisal participants' physical, personal, and professional needs and constraints
- Determining the appraisal's technology needs, including the appraisal tools that will be used on the appraisal
- Identifying logistical needs and dependencies
- Developing a schedule for logistical considerations
- Tracking logistical tasks to ensure they have been completed

### **Examples**

- Media needs including teleconference configurations and local area network connections are taken care of in advance of the appraisal.
- Ergonomic requirements, such as temperature controls and adjustable chairs in assigned facilities, are addressed.

## **CMP 3.1.4 Establishing and maintaining the appraisal schedule**

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### **Associated Skills**

- Incorporating all tasks necessary to complete the appraisal
- Planning with the site coordinator a detailed schedule of interviews, document reviews, presentations, demonstrations, and data consolidation activities
- Providing a schedule buffer to mitigate risks
- Determining the appropriate balance between the schedule and the tolerance level for discovering objective evidence
- Establishing plans for reviewing PIIDs and documents that identify specific information to look for when reviewing these documents
- Establishing reasonable plans so that appraisal team members do not spend an excessive amount of time on the appraisal
- Using historical data and experience as a basis for the schedule
- Considering appraisal team size and capabilities of members in determining the appraisal schedule
- Considering the appraisal scope in determining the amount of time needed for the appraisal

### **Examples**

- The schedule is updated with follow-up interviews to address holes in objective evidence.

## **CMP 3.1.5 Establishing monitoring methods that indicate progress against the plan**

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### **Associated Skills**

- Determining the tools, measures, or other means that will be used to track appraisal team or mini-team progress
- Understanding the triggers in the plans that indicate when it's time to take corrective action or to re-plan
- Determining how progress data will be collected and monitored

- Identifying appropriate opportunities during the appraisal to review progress

#### **Related Competencies**

- CMP 1.3.1, Achieving agreements with the OU regarding providing of objective evidence
- CMP 3.4.2, Managing activities for judging processes

#### **Examples**

- A status matrix is created on a white board that shows the daily goals and progress for each mini-team during evidence review and consolidation activities.

## **KA 3.2 PREPARING TEAM AND PARTICIPANTS**

### **CMP 3.2.1 Selecting appraisal team members**

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#### **Associated Skills**

- Determining the internal and external composition of the appraisal team
- Identifying and excluding prospective appraisal team members within the OU whose presence may inhibit the open communication of appraisal participants
- Selecting appropriate appraisal team members to support the objectives and scope of the appraisal
- Ensuring that appraisal team members individually, and as a team, have the necessary skills and experience required for the appraisal
- Understanding the impact of any restrictions on data accessibility applicable to any appraisal team members resulting from issues such as classified data, security clearances, foreign national status, or proprietary considerations

#### **High Maturity Skills**

- Determining when appraisal team members with specialized knowledge and experience are needed to judge high maturity practices

#### **Related Competencies**

- CMP 9.2.2, Identifying, resolving, or mitigating known team member biases and issues

#### **Examples**

- A senior technical advisor to the corporate CEO is not in the direct management chain of any planned appraisal participant. However the advisor's direct access to top corporate executives might result in employees' being nervous about making potentially negative comments in his or her presence. Therefore, this advisor would not be a suitable appraisal team member.

- An appraisal team comprising 50% members internal to the OU and 50% team members from the same legal entity but external to the OU constitutes a balanced and objective team.

### **CMP 3.2.2 Defining the appraisal team roles and responsibilities**

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#### **Associated Skills**

- Balancing appraisal team members' workloads based on team member capabilities and distributing work evenly
- Deciding if the appraisal team will be broken down into mini-teams or smaller groups for data collection, objective evidence review, and consolidation activities
- Assigning roles to appraisal team members based on their skills, capabilities, and potential conflicts
- Precluding internal appraisal team members from attending data gathering activities in which their presence might inhibit appraisal participants from being forthright
- Determining which interviews and tool demonstrations will be attended by the full appraisal team's membership and which will be attended by a subset of its membership
- Evaluating whether selected appraisal team members will work well together when assigned to their roles

#### **Related Competencies**

- CMP 1.2.1, Achieving agreements with appraisal team members and other appraisal participants
- CMP 1.2.3, Setting expectations with appraisal team members and other appraisal participants

#### **Examples**

- If an appraisal team member has a direct personal leadership role in the implementation of some PA, the team member should not be assigned mini-team responsibility for that PA, and perhaps even should be excluded from a group interview about that particular PA.

## KA 3.3 MANAGING OBJECTIVE EVIDENCE

### CMP 3.3.1 Managing the appraisal team's review of objective evidence

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#### Associated Skills

- Assigning responsibility to individuals, groups, and the appraisal team as a whole for data collection and consolidation
- Understanding the process that groups and individuals will use in reviewing documents and determining if the process is appropriate
- Establishing the measures and means that groups and individuals will use to report their progress
- Defining mechanisms through which groups and individuals will raise issues and information needs

#### Related Competencies

- CMP 3.1.5, Establishing monitoring methods that indicate progress against the plan

#### Examples

- Measures used to track progress at the mini-team level include direct artifacts reviewed and oral affirmation coverage.

### CMP 3.3.2 Managing appraisal team data

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#### Associated Skills

- Establishing and maintaining an inventory of documents used as a source of objective evidence on the appraisal
- Establishing and maintaining an inventory of affirmations used as a source of objective evidence on the appraisal
- Establishing and maintaining a record of mini-team and full appraisal team decisions and any associated weaknesses, strengths, notes, or information needs

#### Examples

- A new version of PA worksheets is established after each appraisal team review.

### CMP 3.3.3 Monitoring the data collection plan

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#### Associated Skills

- Monitoring the data collection plan to ensure that appropriate data is being collected and recorded and that additional information needs are identified
- Monitoring the schedule for objective evidence review activities

- Monitoring the schedule for organizational and project personnel interview activities
- Determining the need to change the appraisal plan and schedule in light of progress
- Re-allocating work among appraisal team members when warranted
- Implementing risk mitigations and contingencies when circumstances warrant

#### **Related Competencies**

- CMP 5.1.1, Generating the appraisal planning document
- CMP 5.1.2, Documenting needed changes to planning documents throughout the life of the appraisal
- CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements

## **KA 3.4 JUDGING PROCESSES**

### **CMP 3.4.1 Planning the preliminary findings sessions**

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#### **Associated Skills**

- Determining how many preliminary findings sessions will be held and who will attend each session
- Deciding who will communicate the appraisal results and how the sessions will be conducted
- Explaining to appraisal team members the purposes of the preliminary findings sessions and how they will be conducted
- Assigning roles and responsibilities to appraisal team members for the preliminary findings sessions

#### **Related Competencies**

- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
- CMP 5.4.4, Presenting preliminary findings

#### **Examples**

- Typically, one preliminary findings session for management and one preliminary findings session for practitioners are conducted.

## **CMP 3.4.2 Managing activities for judging processes**

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### **Associated Skills**

- Determining whether appropriate team member knowledge is available and taking corrective action as necessary
- Using measures to monitor the progress of the process-judging activities and taking corrective actions when necessary
- Tracking the number and status of issues and information needs related to process-judging activities

### **Related Competencies**

- CMP 3.1.5, Establishing monitoring methods that indicate progress against the plan
- CMP 4.4.1, Facilitating appraisal team sessions for judging processes

### **Examples**

- Measures to track progress include the number of practice characterizations completed at the instantiation level and at the OU level, and the number of PA findings drafted by the mini-teams and reviewed by the full appraisal team.

## **KA 3.5 REPORTING OUTCOMES**

### **CMP 3.5.1 Planning the delivery of the final findings**

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#### **Associated Skills**

- Explaining to the sponsor the purpose of the final findings
- Determining whether final findings materials will be reviewed with the sponsor, and to what extent, prior to the final findings presentation
- Understanding biases and concerns of stakeholders and preparing to address them
- Deciding how stakeholder expectations will be managed
- Determining the appropriate communication vehicles for delivering the final findings
- Determining how much background and tutorial information should be included in the final findings presentation

#### **Related Competencies**

- CMP 4.5.2, Managing the final findings presentation
- CMP 6.5.2, Accommodating the local culture when reporting outcomes

- CMP 6.5.3, Determining the most effective means of delivering results
- CMP 8.1.3, Determining the output options
- CMP 8.4.2, Preparing the final findings

#### Examples

- A decision may be made not to entertain any questions in the final findings briefing and to defer them until the executive briefing.
- The sponsor may be briefed on the contents of the final findings before the final findings presentation so that the sponsor will not be surprised and will have some time to prepare some remarks.

### **CMP 3.5.2 Planning the executive session**

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#### Associated Skills

- Communicating to the sponsor the options for conducting the executive session and the consequences of those options
- Advising the sponsor on whom to invite to the executive session and how the session will be run

#### Related Competencies

- CMP 4.5.3, Facilitating discussions during the executive session

#### Examples

- Typically, executive session participants include the sponsor, the sponsor's management team members, and appraisal team members.

### **SUGGESTED READINGS FOR CC 3**

Chapman, Chris & Ward, Stephen. *Managing Project Risk and Uncertainty: A Constructively Simple Approach to Decision Making*. Wiley, 2002.

Chin, Gary. *Agile Project Management: How to Succeed in the Face of Changing Project Requirements*. American Management Association, 2003.

Dymond, Kenneth. *Assessment Coordinator's Handbook: Planning for a Well-Orchestrated Software Appraisal*. Process Transition International, Inc., 1997. (Available at <http://www.processtransition.com/>)

Humphrey, Watts S. *TSP:<sup>SM</sup> Leading a Development Team*. Addison-Wesley, 2005.

Kroeger, Otto with Thuesen, Janet M. *Type Talk at Work: How the 16 Personality Types Determine Your Success on the Job*. Tilden Press (published by Dell Publishing), 1992.

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<sup>SM</sup> TSP and Team Software Process are service marks of Carnegie Mellon University.

Moeller, Robert R. *COSO Enterprise Risk Management: Understanding the New Integrated ERM Framework*. Wiley, 2007.

Project Management Institute. *A Guide to the Project Management Body of Knowledge (PMBOK Guides)*, 3rd Ed. Project Management Institute, 2004.

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## CC 4 Interpersonal Communication and Facilitation

Interpersonal Communication and Facilitation is the ability to hold successful discussions with individuals and groups with a balanced focus on effective listening and effective speaking. It also may include conducting interviews, moderating group and team discussions, establishing a comfortable and encouraging atmosphere for interviews and discussions, identifying and addressing tension or discomfort, and developing effective strategies for conflict resolution. A Lead Appraiser is expected to communicate effectively with sponsors and appraisal participants. A Lead Appraiser is also expected to foster an atmosphere that allows appraisal team members and other appraisal participants to express themselves openly and honestly.

### KA 4.1 APPRAISAL PLANNING

#### **CMP 4.1.1 Eliciting the information needed to effectively plan the appraisal**

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##### **Associated Skills**

- Developing a plan or strategy to gather the necessary information
- Actively gathering and extracting information relevant to planning appraisals
- Applying active listening techniques in conversations with sponsors and other stakeholders
- Choosing the appropriate times and places for communication activities
- Soliciting feedback from relevant stakeholders to ensure that assumptions and information collected are valid
- Sharing appraisal planning status periodically with the appraisal sponsor and other relevant stakeholders
- Clarifying appraisal constraints with the sponsor
- Seeking input from the sponsor regarding risk identification and helping to sensitize the sponsor to consequences of the identified risks

##### **Related Competencies**

- CMP 1.1.1, Negotiating in the context of appraisal planning
- CMP 3.1.1, Managing stakeholder involvement
- CMP 5.1.1, Generating the appraisal planning documents
- CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

## KA 4.2 PREPARING TEAM AND PARTICIPANTS

### CMP 4.2.1 Building the appraisal team

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#### Associated Skills

- Using a variety of communication and facilitation techniques to help appraisal team members understand and improve their own capabilities
- Adapting communication and facilitation styles to support the current appraisal team's growth state and phases in the appraisal lifecycle
- Setting expectations for the development stages that appraisal team members are likely to experience
- Working with appraisal team members to identify and remove barriers to effective communication
- Recognizing when to address appraisal team member issues privately or publicly

#### Related Competencies

- CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal

#### Examples

- The Myers-Briggs Type Indicator (MBTI) can be used to help highlight appraisal team member preferences for collecting information and making decisions.
- Appraisal team building exercises can be conducted during appraisal team training to acquaint team members with each other's communication styles and interests that they bring to the team.

### CMP 4.2.2 Establishing an environment that fosters effective communication

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#### Associated Skills

- Serving as a role model for open and honest communication
- Ensuring that the environment supports a comfortable and relaxed setting with established norms of engagement
- Establishing team communication vehicles
- Encouraging and supporting honesty and sincerity
- Setting appropriate expectations of appraisal team members through appraisal agendas and plans

- Identifying and resolving any concerns that would lead an appraisal team member or other appraisal participant to feel insecure or unsafe when expressing an honest view

#### **Related Competencies**

- CMP 4.3.3, Facilitating interviews
- CMP 4.3.4, Facilitating appraisal team discussions on objective evidence
- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
- CMP 9.2.3, Setting appraisal participant and sponsor expectations regarding SCAMPI principles

### **CMP 4.2.3 Preparing appraisal team members to perform their roles on the appraisal**

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#### **Associated Skills**

- Explaining to appraisal team members how to report progress and status
- Training appraisal team members on the consensus process
- Describing to appraisal team members the differences between strengths (exemplary implementations), alternative practices, weaknesses, and suggestions
- Enabling appraisal team members to perform their roles in interviews and internal team discussions and to engage appropriate behaviors and protocols
- Training appraisal team members to interpret objective evidence, assign characterizations, create findings, and rate goals
- Coaching appraisal team members on how to take useful notes and manage those notes
- Demonstrating the templates and tools to be used in the appraisal

#### **Related Competencies**

- CMP 2.2.1, Establishing decision-making and problem-solving techniques that appraisal team members will use
- CMP 4.2.1, Building the appraisal team
- CMP 5.2.1, Presenting information in appraisal team training and in appraisal participant orientation
- CMP 7.2.1, Preparing appraisal team members for model interpretation

## **CMP 4.2.4 Providing orientation to appraisal participants on the appraisal event**

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### **Associated Skills**

- Preparing and delivering presentations to train appraisal participants on SCAMPI and CMMI
- Maintaining professional presence and interactions with the appraisal participants
- Adapting the presentation and presentation style based on understanding the OU's needs, history, culture, and appraisal experience
- Accurately responding to pertinent questions related to SCAMPI and CMMI
- Communicating role expectations to the appraisal participants

### **Related Competencies**

- CMP 3.1.1, Managing stakeholder involvement
- CMP 5.2.1, Presenting information in appraisal team training and in appraisal participant orientation

### **Examples**

- Expectations of the sponsor and appraisal participant are established in areas such as confidentiality, non-attribution, and appraisal participants' ability to say "I don't know."

## **KA 4.3 MANAGING OBJECTIVE EVIDENCE**

### **CMP 4.3.1 Communicating to the OU the objective evidence that is needed**

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#### **Associated Skills**

- Ensuring that the OU understands the types and quantity of objective evidence that they should provide
- Explaining the differences between direct and indirect artifacts
- Clarifying the concept of institutionalization, and articulating the objective evidence that is needed to demonstrate that a practice is institutionalized
- Explaining the differences between using verification and discovery approaches to conduct an appraisal and the impact of each on the appraisal
- Communicating the format and the level of detail to be used when providing objective evidence
- Communicating to the OU additional information needs as they arise during the appraisal

**Related Competencies**

- CMP 1.3.1, Achieving agreements with the OU regarding providing of objective evidence
- CMP 2.3.1, Deciding on the feasibility of the appraisal plan based on the status of objective evidence
- CMP 5.1.1, Generating the appraisal planning documents

**CMP 4.3.2 Preparing interview guidelines and strategy**

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**Associated Skills**

- Determining if question scripts will be used and, if necessary, preparing them
- Assuring adequate affirmation coverage of specific and generic practices of relevant process areas
- Addressing issues or information needs identified by appraisal team members
- Planning appropriate interview opening and closing segments
- Ensuring that questions are phrased using appropriate organizational terminology

**Related Competencies**

- CMP 4.3.3, Facilitating interviews

**CMP 4.3.3 Facilitating interviews**

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**Associated Skills**

- Facilitating or assigning facilitators for group and individual interviews
- Following a script or guidelines to ensure needed coverage
- Ensuring that appraisal participants are aware of the rules of confidentiality and non-attribution
- Using active listening techniques
- Ensuring balanced participation among interviewees during group interviews
- Making appropriate use of remote communication methods such as video conferences and teleconferences
- Encouraging appraisal team members to ask additional questions
- Managing time so that the interview begins and ends on schedule
- Recognizing both verbal and non-verbal communication
- Making reasonable accommodations to the needs of the interviewees

**Related Competencies**

- CMP 4.2.2, Establishing an environment that fosters effective communication
- CMP 4.3.2, Preparing interview guidelines and strategy
- CMP 6.3.1, Accommodating the local culture when conducting interviews

**CMP 4.3.4 Facilitating appraisal team discussions on objective evidence**

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**Associated Skills**

- Maintaining open and active communication between the Lead Appraiser and appraisal team members throughout the process of collecting and consolidating objective evidence
- Establishing and managing an appropriate pace to ensure that the work is completed
- Guiding appraisal team members to recognize when they have enough data
- Recognizing and adjusting appraisal team members' mindset when they are discussing goodness rather than sufficiency
- Facilitating appraisal team meetings to review status, progress, and issues related to processing objective evidence
- Identifying situations where work may need to be redistributed among appraisal team members

**Related Competencies**

- CMP 4.2.2, Establishing an environment that fosters effective communication

**KA 4.4 JUDGING PROCESSES****CMP 4.4.1 Facilitating appraisal team sessions for judging processes**

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**Associated Skills**

- Communicating and clarifying the SCAMPI characterization and rating processes
- Guiding appraisal team members to recognize when requests for additional information are unlikely to be satisfied, resulting in the identification of weaknesses
- Ensuring that issues and interpretations are consistent across the process areas
- Ensuring barriers to appraisal team objectivity are identified and appropriately addressed

- Keeping discussions open and listening to appraisal team members' points of view, as long as there are issues to discuss
- Facilitating the appraisal team to come to consensus on characterizations, ratings, and findings
- Keeping the appraisal team focused on the OU context and CMMI model requirements

#### **Related Competencies**

- CMP 3.4.2, Managing activities for judging processes
- CMP 5.4.6, Articulating the basis for goal ratings
- CMP 7.4.1, Evaluating implementations of CMMI practices

#### **Examples**

- If a type of training record is adequate for GP 2.5 evidence on one process area it should be adequate for other process areas.

### **CMP 4.4.2 Resolving conflicts related to judging processes**

#### **Associated Skills**

- Ensuring the entire appraisal team is actively engaged and involved in the discussions of topics for which there is disagreement
- Ensuring all sides of the issue or topic are expressed and understood within the appraisal team
- Identifying when additional evidence or information would help to resolve the conflict and the nature of that additional evidence or information
- Proposing solutions that bridge different appraisal team member views or that resolve an issue in a way that all team members can accept
- Achieving consensus on resolution proposals that are consistent with the model and method and yield acceptable results for appraisal participants
- Keeping appraisal team member discussions focused on appraisal issues, not on personalities or extraneous considerations
- Maintaining awareness of time spent in discussions and deciding when it is time to move on and revisit later

### **CMP 4.4.3 Soliciting feedback during preliminary findings sessions**

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#### **Associated Skills**

- Setting expectations among the appraisal participants about the types of feedback appraisal team members are looking for, how to provide it, and how it will be used
- Creating an environment in which appraisal participants are comfortable providing feedback
- Delivering preliminary results in a clear and straightforward manner
- Facilitating additional dialogue with the appraisal participants when there is confusion or when the issue is not completely understood

#### **Related Competencies**

- CMP 3.4.1, Planning the preliminary findings sessions
- CMP 4.2.2, Establishing an environment that fosters effective communication
- CMP 5.4.3, Crafting preliminary findings
- CMP 5.4.4, Presenting preliminary findings
- CMP 6.4.3, Conducting preliminary findings sessions that accommodate the local culture

#### **Examples**

- Proposed changes are heard, considering them is committed to, but making any actual changes is not committed to.

## **KA 4.5 REPORTING OUTCOMES**

### **CMP 4.5.1 Delivering positive and negative information with credibility and professionalism**

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#### **Associated Skills**

- Explaining the decision-making process of the appraisal team
- Presenting appraisal results with clarity and confidence
- Facilitating appropriate discussions of appraisal results when warranted
- Using a tone, language, and body language that is appropriate
- Presenting appropriate justifications and information that supports appraisal team findings and conclusions
- Demonstrating sensitivity to the impact of the results

- Avoiding the appearance of bias or prejudice when presenting appraisal results

**Related Competencies**

- CMP 5.5.2, Delivering appraisal results
- CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes

**Examples**

- Commentary should focus on the evidence that was gathered and evaluated during the appraisal; discussions that contain conjecture should be avoided.

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**CMP 4.5.2 Managing the final findings presentation**

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**Associated Skills**

- Recognizing biases and expectations of attendees and addressing them as appropriate
- Establishing a confident and authoritative presence that is open and aware
- Answering questions, preferably using site terminology, so that the attendees can fully understand the context of the results
- Knowing when to ask others to help answer questions
- Keeping the focus of discussions on topics related to appraisal results and their implications

**Related Competencies**

- CMP 3.5.1, Planning the delivery of the final findings
- CMP 5.5.2, Delivering appraisal results
- CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes
- CMP 8.4.2, Preparing the final findings

**Examples**

- It may become apparent that some attendees feel that blame will be assigned following the presentation of negative information. In such a case, it may be appropriate to directly address the question of blame, and point out that the OU's processes were being appraised, not the work of any individual.

### **CMP 4.5.3 Facilitating discussions during the executive session**

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#### **Associated Skills**

- Letting the sponsor control the attendance and the agenda for the executive session
- Interacting with the sponsor in a respectful and professional manner when responding to issues and questions and expressed information needs
- Ensuring that non-attribution provisions are not breached

#### **Related Competencies**

- CMP 3.5.2, Planning the executive session

### **SUGGESTED READINGS FOR CC 4**

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Kaner, Sam, Lind Lenny, Toldi, Catherine, Fisk, Sarah, Berger, Duane, Doyle, Michael (Forward by). *Facilitator's Guide to Participatory Decision Making, 2<sup>nd</sup> Edition*. Jossey-Bass, 2007.

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Smith, Geoff. *Leading the Professionals: How to Inspire & Motivate Professional Service Teams*. Kogan Page, 2004.

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## CC 5 Integration, Articulation, and Expression of Information

Integration, Articulation, and Expression of Information is the ability to aggregate separate but related items of information, communicate clearly and accurately, and present information effectively, either orally or in writing. It also may include finding the right phrasing or terminology to convey key points in a given context, and to abstract essential ideas from a large amount of detailed information. A Lead Appraiser is expected to effectively analyze, integrate, and articulate information throughout the appraisal processes.

### KA 5.1 APPRAISAL PLANNING

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#### CMP 5.1.1 Generating the appraisal planning documents

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##### Associated Skills

- Consolidating planning inputs received from the sponsor, appraisal team members, and other stakeholders
- Writing the appraisal planning documents in clear and simple language
- Organizing written information in a logical and understandable way
- Ensuring all required content is included in appraisal planning documents and in SEI Appraisal System (SAS) submissions
- Determining the presentations and demonstrations of projects, processes, and tools that will be provided
- Selecting interviewees and interview groups to sufficiently cover all process areas, focus projects, non-focus projects, and support groups in the appraisal scope
- Determining the topics that need to be covered in interviews
- Assigning roles for each interview and the interviewing protocol and techniques to be used
- Reviewing appropriate appraisal planning documents with the sponsor and getting signed concurrence

##### Related Competencies

- CMP 3.3.3, Monitoring the data collection plans
- CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
- CMP 4.3.1, Communicating to the OU the objective evidence that is needed

- CMP 5.1.2, Documenting needed changes to planning documents throughout the life of the appraisal
- CMP 6.1.1, Establishing cascading sponsorship of the appraisal

### **CMP 5.1.2 Documenting needed changes to planning documents throughout the life of the appraisal**

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#### **Associated Skills**

- Identifying those areas in the planning documents that must be revised or updated
- Updating planning documents to reflect changes that arise during the course of the appraisal
- Revising the data collection plans, focusing on additional information needed to ensure that sufficient coverage is achieved

#### **Related Competencies**

- CMP 3.3.3, Monitoring the data collection plan
- CMP 5.1.1, Generating the appraisal planning documents
- CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements

#### **Examples**

- The data collection plan is revised after each appraisal team consolidation session through update of interview guidelines and strategy based on information needed and areas where desired coverage has been reached.

## **KA 5.2 PREPARING TEAM AND PARTICIPANTS**

### **CMP 5.2.1 Presenting information in appraisal team training and in appraisal participant orientation**

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#### **Associated Skills**

- Presenting training materials in an effective way
- Tailoring content appropriately, considering the audience and its needs
- Selecting an appropriate pace for presenting materials
- Verifying that materials presented are visible and audible to the audience
- Understanding presentation styles and being able to adjust style according to the audience's experience, maturity, and expectations

- Adjusting the presentation in response to the audience’s understanding or reaction

**Related Competencies**

- CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal
- CMP 4.2.4, Providing orientation to appraisal participants on the appraisal event

## KA 5.3 MANAGING OBJECTIVE EVIDENCE

### CMP 5.3.1 Identifying and clarifying the results of data collection and consolidation

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**Associated Skills**

- Identifying which evidence provided by the OU constitutes appropriate evidence for particular practices
- Recognizing and articulating strengths and weaknesses indicated by documents and interviews
- Guiding appraisal team members to clearly document strengths, weaknesses, and suggestions
- Preparing and helping appraisal team members to prepare precise and clear statements that describe practice implementation gaps
- Ensuring that the results do not contain any inappropriate attribution to individuals or projects
- Monitoring the status of identified information needs

**Related Competencies**

- CMP 7.3.1, Determining relevance of objective evidence to individual practices
- CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements

## KA 5.4 JUDGING PROCESSES

### CMP 5.4.1 Recognizing and articulating possible alternative practices

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**Associated Skills**

- Identifying cases in which the OU does not perform a model practice but may perform practices that could make an equivalent contribution to goal satisfaction

- Preparing clear statements about possible alternative practices

#### Related Competencies

- CMP 7.4.3, Determining if alternative practices meet the model's intent

### **CMP 5.4.2 Articulating the rationale for practice characterizations**

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#### Associated Skills

- Explaining the practice characterization process and the criteria used for the different SCAMPI characterizations
- Explaining the intent of a CMMI practice, including the significance of the informative components associated with that practice
- Monitoring and assuring consistency of characterizations across projects and process areas
- Documenting identified weaknesses leading to characterization judgments

#### Related Competencies

- CMP 7.5.2, Explaining the rationale for practice characterizations and goal ratings

### **CMP 5.4.3 Crafting preliminary findings**

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#### Associated Skills

- Ensuring that process area findings are based on the model
- Ensuring that the findings are at the appropriate level of detail
- Ensuring that statements of strengths, weaknesses, and suggestions clearly and precisely express what appraisal team members have found
- Designing preliminary findings to provoke discussion, especially in cases where appraisal team members feel that more information is needed
- Using OU terminology to ensure clarity
- Using appropriate qualifiers in writing strength and weakness statements to avoid absolute statements
- Writing non-CMMI findings if appropriate

#### Related Competencies

- CMP 4.4.3, Soliciting feedback during preliminary findings sessions

#### Examples

- Examples of qualifiers include *often*, *in some cases*, *usually*, and *sometimes*.

## **CMP 5.4.4 Presenting preliminary findings**

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### **Associated Skills**

- Presenting preliminary findings so that the issues identified by the appraisal team members are understood by other appraisal participants
- Articulating the relevant issues, impacts of findings, and intent of a practice
- Managing preliminary findings across geographically distributed sites
- Managing preliminary findings presentations appropriately when different sessions are divided by different disciplines, projects, or organizational levels

### **Related Competencies**

- CMP 3.4.1, Planning the preliminary findings sessions
- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
- CMP 6.4.3, Conducting preliminary findings sessions that accommodate the local culture

### **Examples**

- Preliminary findings presentations can be managed when some or all appraisal participants are connected via telephone or videoconference facilities.

## **CMP 5.4.5 Revising the preliminary findings statements into final findings**

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### **Associated Skills**

- Reviewing all of the comments made during the preliminary findings sessions
- Seeking additional information in areas where the appraisal team has not yet reached consensus and feels more information is needed
- Adjusting the findings based on comments made during the preliminary findings validation sessions and on any additional information collected

### **Related Competencies**

- CMP 5.5.1, Summarizing and aggregating diverse findings
- CMP 8.4.2, Preparing the final findings

## **CMP 5.4.6 Articulating the basis for goal ratings**

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### **Associated Skills**

- Identifying and focusing on the essential relevant issues during goal rating discussions
- Identifying and clarifying the specific question or issue on which a rating decision depends

- Maintaining focus on the OU context and the process impact of rating decisions
- Clarifying the significance and seriousness of identified weaknesses
- Monitoring and assuring the consistency of ratings across the appraisal scope

**Related Competencies**

- CMP 4.4.1, Facilitating appraisal team sessions for judging processes
- CMP 7.4.5, Judging practices at the OU level and rating goals
- CMP 7.5.2, Explaining the rationale for practice characterizations and goal ratings

## KA 5.5 REPORTING OUTCOMES

### **CMP 5.5.1 Summarizing and aggregating diverse findings**

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**Associated Skills**

- Including appropriate examples and summaries of recurring ideas
- Placing appropriate priorities and emphases on findings
- Aggregating and summarizing findings across multiple instances
- Aggregating and summarizing findings across CMMI process areas and generic practices
- Choosing examples that do not inherently involve attribution to projects or individuals
- Identifying appropriate and useful metaphors that help to clarify and explain the point being made

**Related Competencies**

- CMP 5.4.5, Revising the preliminary findings statements into final findings
- CMP 6.5.2, Accommodating the local culture when reporting outcomes

### **CMP 5.5.2 Delivering appraisal results**

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**Associated Skills**

- Clearly explaining weaknesses and strengths
- Presenting the final findings in a professional and credible manner
- Ensuring that stakeholders know who owns the appraisal results and the restrictions on their use

- Explaining results in detail and answering questions on the basis for characterizations or ratings

#### **High Maturity Skills**

- Explaining results in detail and answering questions on the technical basis for characterizations or ratings of the high maturity practices and goals

#### **Related Competencies**

- CMP 4.5.1, Delivering positive and negative information with credibility and professionalism
- CMP 4.5.2, Managing the final findings presentation
- CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes
- CMP 6.5.2, Accommodating the local culture when reporting outcomes
- CMP 6.5.3, Determining the most effective means of delivering results
- CMP 6.5.4, Recommending next steps for process improvement to the OU
- CMP 8.5.1, Completing the Appraisal Disclosure Statement (ADS)

#### **Examples**

- If a Lead Appraiser is performing a SCAMPI on an OU that primarily builds hardware and its appraisal participants want to use the word “interface” to describe the boundary between two processes, that Lead Appraiser might want to preface their use of the term so that the OU understands they are speaking about where one process hands off to another process, not the more typical connection between two hardware product components.

## **SUGGESTED READINGS FOR CC 5**

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## CC 6 Understanding and Adapting to Organizational Context

Understanding and Adapting to Organizational Context is the ability to identify and understand defining aspects of an organization's culture, and to adjust behavior to more effectively operate within that culture. It also may include identifying key questions and key observations that highlight cultural issues, making appropriate personal adjustments such as attire, terminology, and speech patterns. It also involves understanding the common cultural patterns typically found in specific industries or regions. A Lead Appraiser is expected to work flexibly and effectively within the context of an organization to ensure appraisal results that are accurate, understood, and accepted.

### KA 6.1 APPRAISAL PLANNING

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#### CMP 6.1.1 Establishing cascading sponsorship of the appraisal

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##### Associated Skills

- Identifying the primary sponsor of the appraisal, and any co-sponsors
- Identifying the relevant sponsors and stakeholders to interview for planning purposes
- Understanding how roles and responsibilities are distributed in the OU and which roles belong to stakeholders in appraisal planning
- Understanding the management structure, style, and culture of the OU

##### Related Competencies

- CMP 3.1.1, Managing stakeholder involvement
- CMP 5.1.1, Generating the appraisal planning documents

##### Examples

- An OU whose entire business consists of a single support contract for a specific government agency may require agency approval to make many, if not all, process improvements. In such a case, a government agency executive may properly be treated as a co-sponsor of the appraisal.

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#### CMP 6.1.2 Clarifying the OU's process improvement history

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##### Associated Skills

- Determining the OU's history of process improvement, including its successes and issues
- Determining the structure of the OU's process assets

- Determining currently applicable standards and models
- Determining the OU's approach to process improvement
- Determining the presence or absence of non-CMMI process or quality improvement initiatives, either formal or informal

**High Maturity Skills**

- Determining CMMI process implementations that may impact appraisal planning including both high maturity practice implementations and other practice implementations

**CMP 6.1.3 Understanding the OU's business context and drivers for process improvement**

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**Associated Skills**

- Understanding the OU's business objectives, market, and product domain
- Becoming familiar with the OU's mission, vision, and values, and identifying aspects that are relevant to appraisal planning
- Establishing the purpose of the current SCAMPI appraisal
- Determining the fundamental organizational structure
- Determining the project mix, sizes of projects, and types of projects
- Determining the mix of employees' backgrounds and experience
- Determining the OU's geographical distribution
- Identifying and using sources of local cultural knowledge

**High Maturity Skills**

- Determining the relationship of business goals and concerns to the definition of quantitative targets, the establishment of baselines and models, and the selection of subprocesses to be statistically controlled

**Related Competencies**

- CMP 6.4.2, Understanding business goals and concerns as they impact process judgments
- CMP 6.5.4, Recommending next steps for process improvement to the OU
- CMP 7.1.1, Interpreting the model in the context of the OU's structure and business goals

## KA 6.2 PREPARING TEAM AND PARTICIPANTS

### CMP 6.2.1 Identifying and managing language issues

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#### Associated Skills

- Identifying a terminology mapping between OU terminology and CMMI model terminology
- Adapting presentations and interview scripts from pure CMMI jargon to common local or industry terminology
- Preparing appraisal team members to recognize selected local terms as substitutes for common CMMI model terms
- Establishing what languages will be used for appraisal presentations and interviews
- Planning effective ways to accommodate language differences among the Lead Appraiser, appraisal team members, and other appraisal participants
- Planning effective ways to accommodate appraisal team members who are not able to read the language of some documents presented as evidence

#### Related Competencies

- CMP 6.5.3, Determining the most effective means of delivering results

#### High Maturity Skills

- Preparing appraisal teams to recognize terminology, based on statistical and quantitative methods, that OU's use when describing high maturity activities

#### Examples

- Appraisal team members are provided with a prepared list of key local terms that are commonly used in place of specific model terms, such as "activity list" instead of "WBS" or "process feedback reviews" instead of "quality assurance audits."
- All presentations will be in English. Interview questions will be asked in the language most comfortable to the interviewer. Responses may be provided in the language most comfortable to the appraisal participant, so long as there are enough appraisal team members who understand all languages involved.

### CMP 6.2.2 Identifying and managing cultural issues

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#### Associated Skills

- Understanding and setting appraisal team member expectations about local cultural norms

- Clarifying special local meanings attached to symbols, colors, or gestures that, if ignored, may lead to misunderstandings
- Identifying areas in which typical appraisal practices should be modified to accommodate local norms and expectations
- Understanding and informing appraisal team members about local cultural expectations regarding proper behavior, including attire, etiquette, typical daily schedules, conversational protocols
- Setting expectations for appraisal participants regarding behaviors appropriate to appraisals that may not be typical in the local culture
- Clarifying how local concepts of rank, level, and status affect issues such as confidentiality and interview groupings

#### **Examples**

- Communicate to appraisal participants that they should be on time for interview sessions even though this is not common behavior. Inform appraisal participants that responding “I don’t know” to an interview question is perfectly acceptable, even though this kind of response is not often given. Also emphasize that appraisal participants can ask for clarification if a question is not clear to them.
- In some organizations, project leaders are viewed as peers of engineering practitioners and can be grouped together in preliminary findings sessions. In other organizations, project leaders are viewed as management, and their presence would inhibit comments from engineering practitioners.

## **KA 6.3 MANAGING OBJECTIVE EVIDENCE**

### **CMP 6.3.1 Accommodating the local culture when conducting interviews**

#### **Associated Skills**

- Identifying areas in which local culture conflicts with typical appraisal interview conduct
- Making appropriate tradeoffs between cultural considerations and appraisal needs
- Monitoring the conducting of interviews to ensure that appropriate tradeoffs have been made

#### **Related Competencies**

- CMP 4.3.3, Facilitating interviews

## KA 6.4 JUDGING PROCESSES

### CMP 6.4.1 Understanding the OU context and the culture's impact on process judgments

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#### Associated Skills

- Understanding the size of projects, application domains, and life-cycle models' impact on the implementation of CMMI practices
- Understanding communication chains used for internal coordination activities such as plan approvals and stakeholder involvement
- Understanding which processes are implemented by central organizational groups and which ones are implemented by individual projects
- Using appropriate site terminology to ask questions and document responses

#### Related Competencies

- CMP 7.2.1, Preparing appraisal team members for model interpretation
- CMP 8.4.1, Applying practice characterization and rating rules

### CMP 6.4.2 Understanding business goals and concerns as they impact process judgments

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#### Associated Skills

- Identifying and clarifying the key business goals and concerns that drive OU behavior
- Understanding the types of products being produced and services being performed
- Knowing whether the projects are performed across geographic locations
- Understanding the operations that are being performed by entities outside of the OU and their interfaces with the OU

#### Related Competencies

- CMP 6.1.3, Understanding the OU's business context and drivers for process improvement

#### Examples

- Business goals and concerns that drive behavior could include the application domain, the customer base, quality and predictability needs, and a plummeting stock price.

### **CMP 6.4.3 Conducting preliminary findings sessions that accommodate the local culture**

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#### **Associates Skills**

- Identifying areas in which local culture conflicts with the typical activities used to validate appraisal findings
- Making appropriate tradeoffs between cultural considerations and appraisal needs
- Monitoring the conduct of preliminary finding sessions to ensure that appropriate tradeoffs have been made

#### **Related Competencies**

- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
- CMP 5.4.4, Presenting preliminary findings

#### **Examples**

- In a culture in which people are reluctant to respond to authority figures making presentations, special adjustments must be made to encourage and elicit feedback on preliminary findings.

### **CMP 6.4.4 Recognizing mature organizational behavior**

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#### **Associated Skills**

- Understanding OU behaviors that demonstrate process maturity
- Understanding project behaviors that demonstrate process maturity
- Understanding the intent of CMMI practices
- Understanding how process maturity concepts are applied appropriately in different contexts

#### **High Maturity Skills**

- Understanding the OU and project behaviors that demonstrate high maturity
- Identifying the processes or subprocesses that are being statistically controlled
- Understanding the intent of CMMI high maturity practices
- Understanding how high maturity concepts are applied appropriately in different contexts

#### **Related Competencies**

- CMP 7.4.1, Evaluating implementations of CMMI practices

## KA 6.5 REPORTING OUTCOMES

### CMP 6.5.1 Addressing inconsistencies between the OU's expectations and outcomes

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#### Associated Skills

- Identifying expectations that may be inconsistent with appraisal results
- Effectively explaining how model and method concepts lead to outcomes
- Adapting the presentation of results to the OU's maturity level or capability profile
- Emphasizing progress made even when results are disappointing
- Emphasizing the need for continuing process improvement even when results reflect the successful achievement of targets

#### Related Competencies

- CMP 4.5.1, Delivering positive and negative information with credibility and professionalism
- CMP 4.5.2, Managing the final findings presentation
- CMP 5.5.2, Delivering appraisal results

### CMP 6.5.2 Accommodating the local culture when reporting outcomes

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#### Associated Skills

- Anticipating how the delivery of good news or bad news will be received
- Understanding the OU's sensitivities and taking steps to avoid undesirable reactions
- Adapting the appraisal method to align with the local context and business objectives

#### Related Competencies

- CMP 3.5.1, Planning the delivery of the final findings
- CMP 5.5.1, Summarizing and aggregating diverse findings
- CMP 5.5.2, Delivering appraisal results

### CMP 6.5.3 Determining the most effective means of delivering results

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#### Associated Skills

- Using local language and terminology correctly in reporting outcomes

- Ensuring that the findings, recommendations, and points of emphasis are consistent with the OU’s context
- Determining the most appropriate appraisal team members to deliver appraisal results to the OU

**Related Competencies**

- CMP 3.5.1, Planning the delivery of the final findings
- CMP 5.5.2, Delivering appraisal results
- CMP 6.2.1, Identifying and managing language issues

**Examples**

- Determination of the appropriate appraisal team member to present may depend on language skills or on how results will be accepted.

**CMP 6.5.4 Recommending next steps for process improvement to the OU**

**Associated Skills**

- Understanding the process improvement approach in place at the OU
- Understanding the process improvement priorities of the OU and how they relate to the business goals
- Explaining process improvement options and tradeoffs

**Understanding the current capabilities of the OU Related Competencies**

- CMP 5.5.2, Delivering appraisal results
- CMP 6.1.3, Understanding the OU’s business context and drivers for process improvement
- CMP 7.5.1, Explaining model interpretation

**Example**

- IDEAL<sup>SM</sup> is a process improvement approach commonly in place at organizations.

**SUGGESTED READINGS FOR CC 6**

Axtell, Roger E. *Do’s and Taboos Around the World*. Wiley, 1993.

Goldratt, Eliyahu M. *Theory of Constraints*. North River Press, 1999.

Morrison, Terri & Conaw, Wayne A. *Kiss, Bow, or Shake Hands: The Bestselling Guide to Doing Business in More Than 60 Countries*. Adams Media Corporation, 2006.

Porter, Michael E. *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press, 1998.

Wheeler, Donald J. *Understanding Variation: The Key to Managing Chaos*, 2nd Ed. SPC Press, Inc., 1999.



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## CC 7 Model Interpretation

Model interpretation is the ability to consider how various CMMI model goals and practices can be implemented in different industries and project types. It also may include mapping model terminology and concepts to corresponding local terminology and concepts, recognizing which aspects of practices are critically important in a given context and which are relatively unimportant, and understanding how local alternative practices can contribute effectively to goal satisfaction. A Lead Appraiser is expected to interpret and apply the CMMI model appropriately in real-world situations.

### KA 7.1 APPRAISAL PLANNING

#### CMP 7.1.1 Interpreting the model in the context of the OU's structure and business goals

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##### Associated Skills

- Understanding the business goals of the OU
- Evaluating the overall suitability of the OU's mechanisms and structures for implementing CMMI practices, given the business goals and OU structure
- Determining which practices are not yet implemented due to the life-cycle stage of the projects
- Determining the applicability of the Integrated Product and Process Development (IPPD) additions for the OU based on the structure, composition, and functioning of the teams
- Determining the applicability of the Supplier Agreement Management process area

##### Related Competencies

- CMP 6.1.3, Understanding the OU's business context and drivers for process improvement

##### Examples

- If the general structure of the OU is highly centralized, the Lead Appraiser would expect the primary process implementation mechanisms to be similarly centralized.

## KA 7.2 PREPARING TEAM AND PARTICIPANTS

### **CMP 7.2.1 Preparing appraisal team members for model interpretation**

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#### **Associated Skills**

- Ensuring that site-specific model terminology is communicated to appraisal team members
- Understanding model interpretation assumptions made by the OU and discussing them with appraisal team members
- Training appraisal team members how to recognize relevant evidence and appropriately characterize model practices
- Using real-world examples as a way of communicating why activities are compliant or non-compliant with the model
- Training appraisal team members on how to consistently interpret the CMMI generic practices
- Ensuring that the appraisal team members have read and understood the entire model and not just the practices

#### **High Maturity Skills**

- Determining what knowledge is needed for a given appraisal
- Clarifying what knowledge is available on the appraisal team
- Clarifying high maturity concepts for appraisal team members
- Clarifying the difference between quantitative management and statistical management
- Explaining why maturity level 3 behavior is required to address the maturity level 4 process areas
- Explaining that the maturity level 5 process areas depend on the organization's maturity level 4 quantitative baselines, models, and methods
- Addressing common misinterpretations and misconceptions associated with high maturity
- Ensuring that all members of the appraisal team have adequate knowledge of high maturity concepts and techniques

#### **Related Competencies**

- CMP 4.2.3, Preparing team members to perform their roles on the appraisal
- CMP 6.4.1, Understanding the OU context and the culture's impact on process judgments

### Examples

- The Lead Appraiser can use materials from the OU for exercises in appraisal team training that will cover relevant CMMI interpretation issues.

## KA 7.3 MANAGING OBJECTIVE EVIDENCE

### CMP 7.3.1 Determining the relevance of objective evidence to individual practices

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#### Associated Skills

- Facilitating the appraisal team members' discussion regarding the applicability and appropriateness of objective evidence
- Determining when needed objective evidence is missing and requesting additional information
- Guiding appraisal team members to document any weaknesses, strengths, and recommendations as appropriate
- Recognizing inconsistencies in the objective evidence

#### Related Competencies

- CMP 5.3.1, Identifying and clarifying the results of data collection and consolidation

## KA 7.4 JUDGING PROCESSES

### CMP 7.4.1 Evaluating implementations of CMMI practices

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#### Associated Skills

- Evaluating whether configuration management practices meet model expectations
- Evaluating whether quality assurance practices meet model expectations
- Evaluating whether the project management processes meet model expectations
- Evaluating whether the OU's process assets meet model expectations
- Evaluating whether an OU's process improvement approach meets model expectations
- Evaluating whether a measurement program meets model expectations
- Evaluating whether the engineering practices used in developing a product meet model expectations
- Evaluating whether an OU's formal decision-making processes meet model expectations

- Evaluating whether an OU's training program meets model expectations
- Evaluating whether an OU's supplier agreement management processes meet model expectations

#### **High Maturity Skills**

- Understanding the quantitative and statistical management techniques that can be applicable depending on the context
- Judging the validity of the application of the selected statistical methods
- Evaluating whether statistically managed subprocesses are important in achieving the business goals of the OU
- Evaluating whether approaches to establishing quality and process performance objectives meet model expectations
- Understanding process performance baselines and their uses
- Understanding process performance models and their uses
- Evaluating whether causal analysis and resolution techniques meet model expectations
- Evaluating whether an OU's process for selection and deployment of incremental and innovative improvements meets model expectations

#### **Related Competencies**

- CMP 4.4.1, Facilitating appraisal team sessions for judging processes
- CMP 6.4.4, Recognizing mature organizational behavior

### **CMP 7.4.2 Recognizing strengths, weaknesses, and suggestions and differentiating among them**

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#### **Associated Skills**

- Articulating the intent of a practice
- Explaining that the informative materials in the model are to be used to assist appraisal team members in understanding a practice and not to be used as a checklist
- Recognizing the difference between a shortcoming against a model practice and a process improvement suggestion
- Recognizing the differences between compliance and exemplary implementations

### Examples

- A practice has a process improvement suggestion and still meets the intent of the practice without any weakness identified and is characterized as fully implemented (FI).

## **CMP 7.4.3 Determining if alternative practices meet the model's intent**

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### Associated Skills

- Analyzing whether the proposed alternative practice achieves an effect equivalent to the model practice in satisfying the associated goal
- Documenting weaknesses in cases where the proposed alternative practice does not equivalently support goal satisfaction
- Documenting the rationale for the acceptance or rejection of the proposed alternative practice

### Related Competencies

- CMP 5.4.1, Recognizing and articulating possible alternative practices
- CMP 7.4.4, Judging practices at the instantiation level

## **CMP 7.4.4 Judging practices at the instantiation level**

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### Associated Skills

- Clarifying the meaning of the various characterization values
- Evaluating the degree to which the evidence demonstrates practice implementation
- Reviewing the evidence provided to determine if it covers the practice in terms of the full scope of the appraisal
- Identifying instances when a project or support group has not yet reached the stage in the life cycle to implement the practice
- Understanding the relationships between the practices within and across process areas
- Characterizing practices at the instantiation level based on the evidence provided

### Related Competencies

- CMP 7.4.3, Determining if alternative practices meet the model's intent
- CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements
- CMP 8.4.1, Applying practice characterization and rating rules

## **CMP 7.4.5 Judging practices at the OU level and rating goals**

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### **Associated Skills**

- Determining the significance of weaknesses
- Applying appropriate judgment in aggregating instantiation characterizations to the OU level when deciding between largely implemented (LI) and partially implemented (PI)
- Applying appropriate judgment in determining process area goal satisfaction

### **Related Competencies**

- CMP 5.4.6, Articulating the basis for goal ratings
- CMP 8.4.1, Applying practice characterization and rating rules

## **CMP 7.4.6 Generating non-CMMI findings**

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### **Associated Skills**

- Differentiating a finding that maps to the model and one that is outside the scope of the model
- Deciding on the appropriateness of reporting non-CMMI findings

### **Examples**

- If the usage mode of the appraisal is supplier selection, then it likely will not be appropriate to report non-CMMI findings.

## **KA 7.5 REPORTING OUTCOMES**

### **CMP 7.5.1 Explaining model interpretation**

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#### **Associated Skills**

- Explaining the purpose and intent of process areas to provide background for the findings
- Explaining the final findings to appraisal participants and relevant stakeholders who may have limited CMMI and engineering expertise
- Discussing recommended next steps regarding model implementation

#### **Related Competencies**

- CMP 6.5.4, Recommending next steps for process improvement to the OU

## CMP 7.5.2 Explaining the rationale for practice characterizations and goal ratings

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### Associated Skills

- Explaining weaknesses for any practice characterized less than FI
- Explaining the significance of weaknesses for any unsatisfied goals
- Identifying and articulating consequences

### Related Competencies

- CMP 5.4.2, Articulating the rationale for practice characterizations
- CMP 5.4.6, Articulating the basis for goal ratings

### Examples

- Rationale for practice characterizations and goal ratings may be discussed at the executive session rather than at the final findings presentation.

## SUGGESTED READINGS FOR CC 7

Florac, William A. & Carleton, Anita D. *Measuring the Software Process*. Addison-Wesley, 1999.

Galorath, Daniel D. & Evans, Michael W. *Software Sizing, Estimation, and Risk Management: When Performance is Measured Performance Improves*. Auerbach Publications, 2006.

Miles, Matthew B. & Huberman, Michael. *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd Ed. Sage Publications, Inc., 1994.



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## CC 8 SCAMPI Method Tailoring, Adaptation, and Application

SCAMPI Method Tailoring, Adaptation, and Application is the ability to understand the full range of options available in the SCAMPI appraisal method, and to choose appropriate options for the circumstances surrounding a particular appraisal. Options or adaptations chosen should preserve the integrity and essential features of the SCAMPI method, while still accommodating any special local needs or circumstances (e.g., unconventional scheduling and appraisal participants at multiple distant locations). A Lead Appraiser is expected to demonstrate a thorough knowledge of the SCAMPI method rules, guidelines, and tailoring options.

### KA 8.1 APPRAISAL PLANNING

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#### CMP 8.1.1 Differentiating among the SCAMPI A, B, and C methods

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##### Associated Skills

- Knowing the difference between SCAMPI compliance and ARC compliance
- Knowing the differences between the SCAMPI A, SCAMPI B, and SCAMPI C methods
- Understanding the current errata for the methods
- Articulating the requirements of the SCAMPI methods to the OU and sponsor
- Communicating with a sponsor that does not fully understand the intent of a method and the legitimate extent of tailoring allowed

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#### CMP 8.1.2 Making scoping decisions based on the appraisal goals and needs of the OU

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##### Associated Skills

- Identifying the appropriate OU for the appraisal within the larger organization
- Determining the critical factors to be considered in an appraisal
- Deciding on the organizational scope and ensuring appropriate sampling decisions to cover the critical factors
- Identifying model representation and scope
- Determining the approach to take in the readiness reviews
- Knowing considerations that need to be taken into account when using incremental appraisals
- Deciding if the appraisal will be conducted in increments

#### **Related Competencies**

- CMP 1.1.2, Achieving agreements related to planning
- CMP 2.1.1, Applying appropriate decision-making strategies in appraisal planning
- CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
- CMP 8.2.1, Effectively communicating tailoring decisions

#### **Examples**

- If the OU includes multiple locations, the appraisal may be conducted in increments at each of the locations.

### **CMP 8.1.3 Determining the output options**

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#### **Associated Skills**

- Determining whether project-specific reports will be provided
- Determining the need for a maturity level rating
- Identifying the content and format of the findings

#### **Related Competencies**

- CMP 3.5.1, Planning the delivery of the final findings

#### **Examples**

- The content of the findings may include consequences and suggestions.
- A written final report can be prepared to expand on the final findings briefing.

## **KA 8.2 PREPARING TEAM AND PARTICIPANTS**

### **CMP 8.2.1 Effectively communicating tailoring decisions**

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#### **Associated Skills**

- Reviewing the appraisal plan and tailoring options with relevant stakeholders
- Communicating rationale for tailoring decisions including relevant trade-offs
- Ensuring appraisal team members and other appraisal participants understand the ramifications of tailoring decisions on their roles

#### **Related Competencies**

- CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

## KA 8.3 MANAGING OBJECTIVE EVIDENCE

### CMP 8.3.1 Ensuring that the objective evidence collected meets the method requirements

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#### Associated Skills

- Ensuring oral affirmations meet the method's coverage requirements
- Verifying the appropriateness of artifacts and affirmations provided by each project or support group for practices within the appraisal reference model scope
- Verifying that the evidence provided is sufficient to meet characterization requirements in terms of the full scope of the appraisal
- Revising the data collection plan to meet the method's coverage requirements in cases where there is insufficient evidence

#### Related Competencies

- CMP 3.3.3, Monitoring the data collection plan
- CMP 5.1.2, Documenting needed changes to planning documents throughout the life of the appraisal
- CMP 5.3.1, Identifying and clarifying the results of data collection and consolidation
- CMP 7.4.4, Judging practices at the instantiation level

## KA 8.4 JUDGING PROCESSES

### CMP 8.4.1 Applying practice characterization and rating rules

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#### Associated Skills

- Knowing the rules for instantiation level characterizations
- Knowing the difference between a weakness and a suggestion
- Knowing the rules for aggregating instantiation level characterizations to the OU level
- Determining whether a OU characterization should be Partially Implemented or Largely Implemented in cases where judgment is required
- Knowing how practice characterizations and identified weaknesses lead to goal ratings
- Determining whether a goal rating should be satisfied or unsatisfied in cases where judgment is required

- Reaching consensus with appraisal team members on all practice characterization and rating judgments

**Related Competencies**

- CMP 6.4.1, Understanding the OU context and the culture’s impact on process judgments
- CMP 7.4.4, Judging practices at the instantiation level
- CMP 7.4.5, Judging practices at the OU level and rating goals

**CMP 8.4.2 Preparing the final findings**

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**Associated Skills**

- Knowing the requirements for what must be included in the final findings
- Knowing the tailoring options of what may be included in the final findings
- Reaching consensus on the final findings and any verbal track to be included in the final findings
- Ensuring that all appraisal team members agree to and have signed off on the final findings

**Related Competencies**

- CMP 3.5.1, Planning the delivery of the final findings
- CMP 4.5.2, Managing the final findings presentation
- CMP 5.4.5, Revising the preliminary findings statements into final findings

**Examples**

- Goal ratings that are implicit in staged representation process area ratings do not need to be listed individually in the final findings presentation.

**KA 8.5 REPORTING OUTCOMES**

**CMP 8.5.1 Completing the Appraisal Disclosure Statement (ADS)**

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**Associated Skills**

- Knowing all of the terminology used in the ADS
- Knowing all of the specifics that the Lead Appraiser is required to affirm
- Communicating to the sponsors the ADS affirmations that they need to provide and verifying that the affirmations are made
- Using the SEI Appraisal System (SAS) to record data concerning the planning and conducting of the appraisal and using SAS to generate the ADS

- Clearly identifying the organizational scope in the ADS
- Clearly explaining how and why the selected project sample is suitable and appropriate for the scope

#### **High Maturity Skills**

- Knowing the information that must be included in the ADS and the final findings related to high maturity appraisals

#### **Examples**

- The definition of the OU should not read along the lines of, “The OU comprises all business units except for the XYZ unit.” This could enable the OU to create, acquire, or merge with any number of units that were not present at the time of the SCAMPI appraisal, and all would qualify as business units except for the XYZ unit.

#### **Related Competencies**

- CMP 5.5.2, Delivering appraisal results
- CMP 8.5.4, Informing the sponsor of the method requirements that affect the OU
- CMP 8.5.5, Assembling and submitting the appraisal data package to the CMMI Steward

### **CMP 8.5.2 Collecting lessons learned from appraisal team members**

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#### **Associated Skills**

- Documenting what could have gone better during the appraisal and any suggested changes for future appraisals
- Documenting things that went well during the appraisal and any suggestions to do things exactly the same way for future appraisals

#### **Examples**

- Lessons learned are typically collected in the appraisal wrap-up session at the conclusion of the appraisal.

### **CMP 8.5.3 Generating the appraisal record and delivering it to the appraisal sponsor**

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#### **Associated Skills**

- Collecting all of the appraisal artifacts required for the appraisal record
- Ensuring that non-attribution provisions are addressed in all appraisal artifacts in the appraisal record by removing the sources of information

- Delivering the appraisal record to the appraisal sponsor and letting the sponsor know of the requirement to maintain the appraisal record through the appraisal's expiration date
- Reaching agreement with the sponsor regarding how the data will be retained by the OU after the appraisal

**Related Competencies**

- CMP 8.5.4, Informing the sponsor of the method requirements that affect the OU

**CMP 8.5.4 Informing the sponsor of the method requirements that affect the OU**

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**Associated Skills**

- Informing the sponsors of the purposes of the ADS and the specific details they will be affirming
- Informing the sponsors of the contents of the appraisal record and their responsibilities to maintain the appraisal record

**Related Competencies**

- CMP 1.5.1, Achieving agreements with affected stakeholders related to reporting appraisal outcomes
- CMP 8.5.1, Completing the Appraisal Disclosure Statement (ADS)
- CMP 8.5.3, Generating the appraisal record and delivering it to the appraisal sponsor

**CMP 8.5.5 Assembling and submitting the appraisal data package to the CMMI Steward**

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**Associated Skills**

- Knowing how to set up an appraisal on the SAS
- Understanding all of the information that is required to be submitted regarding the appraisal
- Ensuring that all of appraisal team members and the sponsors complete their feedback forms
- Knowing how to get assistance if the Lead Appraiser runs into any problems using SAS
- Submitting appraisal reports that meet CMMI Steward requirements

### Related Competencies

- CMP 8.5.1, Completing the Appraisal Disclosure Statement (ADS)

## SUGGESTED READINGS FOR CC 8

SCAMPI Upgrade Team. *Appraisal Requirements for CMMI*,<sup>®</sup> Version 1.2 (ARCV1.2) (CMU/SEI-2006-TR-011). Software Engineering Institute, 2006.

O’Leary, Joan & CMMI Appraisal Team. *SAS Users Guide V1.3*, Software Engineering Institute, 2007.



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## CC 9 Professionalism

Professionalism is the ability to understand the behavioral obligations of the SEI Code of Professional Conduct, and the willingness and ability to abide by these behavioral obligations under all circumstances. It also may include managing and continuing professional growth and development, contributing to the knowledge base of practitioners through such means as professional papers, presentations, or shared artifacts, and acting at all times in a way that brings credit to the professional community. A Lead Appraiser is expected to maintain the highest standards of ethical behavior and to serve as a model for others to follow.

### KA 9.1 APPRAISAL PLANNING

#### **CMP 9.1.1 Identifying, resolving, or mitigating actual or perceived conflicts of interest**

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##### **Associated Skills**

- Identifying objectivity and credibility issues involving appraisal team members and the team as a whole
- Disclosing to customers, sponsors, and appraisal team members any possible conflicts of interest
- Managing any conflicts of interest

##### **Related Competencies**

- CMP 9.2.1, Recognizing one's own suitability to lead a given appraisal
- CMP 9.2.2, Identifying and resolving or mitigating known appraisal team member biases and issues

##### **Examples**

- Potential conflicts of interest within the appraisal team are documented in the appraisal plan as risks.
- Appraisal team members are assigned to specific process areas and mini-teams so as to appropriately manage potential conflicts of interest.

#### **CMP 9.1.2 Identifying areas for one's own personal and professional growth**

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##### **Associated Skills**

- Inventorying current personal and professional skills and competencies
- Determining specific mid-term and long-term personal and professional goals

- Identifying areas for one's own personal and professional growth based on current skills and competencies and the skills and competencies needed to meet mid-term and long-term goals

**Related Competencies**

- CMP 9.1.3, Planning and implementing activities to promote one's own personal and professional growth
- CMP 9.2.1, Recognizing one's own suitability to lead a given appraisal

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**CMP 9.1.3 Planning and implementing activities to promote one's own personal and professional growth**

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**Associated Skills**

- Staying current with industry developments, lessons learned, and best practices
- Staying current in changes and developments in CMMI models and their interpretations
- Developing and implementing plans to promote growth in identified areas
- Evaluating whether the activities have had an impact on achieving identified mid-term and long-term personal and professional goals
- Adjusting plans based on the results achieved

**Related Competencies**

- CMP 9.1.2, Identifying areas for one's own personal and professional growth
- CMP 9.2.1, Recognizing one's own personal suitability to lead a given appraisal

**KA 9.2 PREPARING TEAM AND PARTICIPANTS**

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**CMP 9.2.1 Recognizing one's own suitability to lead a given appraisal**

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**Associated Skills**

- Maintaining awareness of skills, experience, and limitations as a Lead Appraiser, and determining whether the planned appraisal is appropriate to lead
- Taking action to mitigate skill and experience deficiencies when preparing to lead an appraisal
- Identifying conflicts of interests and taking appropriate actions
- Determining availability for the on-site period and the time needed for planning, appraisal team training, readiness reviews, and appraisal reporting
- Ensuring expertise in the domain of the appraisal

- Ensuring expertise in the CMMI model scope
- Ensuring adequate understanding of the customer and customer requirements

#### **Related Competencies**

- CMP 9.1.1, Identifying, resolving, or mitigating actual or perceived conflicts of interest
- CMP 9.1.2, Identifying areas for one's own personal and professional growth
- CMP 9.1.3, Planning and implementing activities to promote one's own personal and professional growth

### **CMP 9.2.2 Identifying and resolving or mitigating known appraisal team member biases and issues**

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#### **Associated Skills**

- Reviewing the background and experience of appraisal team members and identifying areas where supplemental or remedial training may be needed for team members
- Identifying and managing biases of appraisal team members
- Ensuring that appraisal team members understand their roles and responsibilities in maintaining confidentiality and non-attribution

#### **Related Competencies**

- CMP 3.2.1, Selecting appraisal team members
- CMP 9.1.1, Identifying, resolving, or mitigating actual or perceived conflicts of interest
- CMP 9.3.1, Ensuring that appraisal team members are ethical in managing objective evidence
- CMP 9.4.1, Ensuring that appraisal team members are objective in judging processes

#### **Examples**

- Roles and responsibilities can be renegotiated or an appraisal team member can be removed from the team if it appears that bias is getting in the way of doing the job.

### **CMP 9.2.3 Setting appraisal participant and sponsor expectations regarding SCAMPI principles**

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#### **Associated Skills**

- Establishing the operational definitions of confidentiality and non-attribution

- Explaining the consequences of breaching confidentiality or non-attribution
- Ensuring that sponsors and other appraisal participants understand appraisal protocols, including confidentiality and non-attribution
- Informing sponsors and other appraisal participants of the format and content of the appraisal results

#### **Related Competencies**

- CMP 4.2.2, Establishing an environment that fosters effective communication
- CMP 9.5.1, Maintaining non-attribution in reporting outcomes
- CMP 9.5.2, Protecting confidentiality in reporting outcomes

#### **Examples**

- Non-attribution applies to appraisal team members and other appraisal participants.

## **KA 9.3 MANAGING OBJECTIVE EVIDENCE**

### **CMP 9.3.1 Ensuring that appraisal team members are ethical in managing objective evidence**

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#### **Associated Skills**

- Monitoring appraisal team members for inappropriate handling of evidence
- Establishing an atmosphere within the appraisal team in which team members feel comfortable raising issues of potential bias by other team members
- Identifying potential bias by appraisal team members and taking action to address the concern
- Ensuring that all unneeded materials containing appraisal sensitive information is disposed of in a secure manner

#### **Related Competencies**

- CMP 9.2.2, Identifying and resolving or mitigating known appraisal team member biases and issues

## **KA 9.4 JUDGING PROCESSES**

### **CMP 9.4.1 Ensuring that appraisal team members are objective in judging processes**

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#### **Associated Skills**

- Monitoring the judgments of appraisal team members for inappropriate interpretations

- Identifying potential bias by appraisal team members and taking action to address the concern

**Related Competencies**

- CMP 9.2.2, Identifying and resolving or mitigating known appraisal team member biases and issues

## **CMP 9.4.2 Seeking outside assistance when needed**

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**Associated Skills**

- Recognizing personal limitations as well as the limitations of the appraisal team
- Identifying situations where outside assistance and guidance are needed to properly resolve questions or issues that arise during an appraisal
- Using books and/or online resources
- Making personal contact, through telephone or email, with individuals possessing relevant expertise

**Examples**

- Seeking assistance from configuration management experts of whether a particular configuration management audit meets the model's intent.

## **KA 9.5 REPORTING OUTCOMES**

### **CMP 9.5.1 Maintaining non-attribution in reporting outcomes**

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**Associated Skills**

- Protecting the identification of individuals in findings
- Protecting the identification of projects in OU findings, unless project-specific findings have been planned
- Protecting non-attribution when responding to questions regarding specific findings

**Related Competencies**

- CMP 1.5.1, Achieving agreements with affected stakeholders related to reporting appraisal outcomes
- CMP 9.2.3, Setting appraisal participant and sponsor expectations regarding SCAMPI principles

## **CMP 9.5.2 Protecting confidentiality in reporting outcomes**

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### **Associated Skills**

- Ensuring that all appraisal results are owned by the full appraisal team membership and not by individuals or a group of individuals
- Adhering to confidentiality requirements of the customer and the method

### **Related Competencies**

- CMP 1.5.1, Achieving agreements with affected stakeholders related to reporting appraisal outcomes
- CMP 9.2.3, Setting appraisal participant and sponsor expectations regarding SCAMPI principles

### **Examples**

- A tailored non-disclosure agreement with the OU is negotiated that states specific confidentiality requirements.

## **SUGGESTED READINGS FOR CC 9**

Bolton, Robert & Grover Bolton, Dorothy. *People Styles at Work: Making Bad Relationships Good and Good Relationships Better*. American Management Association, 1996.

Furlong, Gary T. *The Conflict Resolution Toolbox: Models and Maps for Analyzing, Diagnosing, and Resolving Conflict*. Wiley, 2005.

SEI Partner Network, *Code of Professional Conduct for Services, Version 1.0* (CMU/SEI-2004-SR-009). Software Engineering Institute, 2004.

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## Appendix A Competency Clusters, Knowledge Areas, and Competencies

### CC 1 Achieving and Managing Agreements

#### KA 1.1 APPRAISAL PLANNING

CMP 1.1.1 Negotiating in the context of appraisal planning

CMP 1.1.2 Achieving agreements related to planning

CMP 1.1.3 Managing agreements related to planning

#### KA 1.2 PREPARING TEAM AND PARTICIPANTS

CMP 1.2.1 Achieving agreements with appraisal team members and other appraisal participants

CMP 1.2.2 Managing agreements with appraisal team members and other appraisal participants

CMP 1.2.3 Setting expectations with appraisal team members and other appraisal participants

#### KA 1.3 MANAGING OBJECTIVE EVIDENCE

CMP 1.3.1 Achieving agreements with the OU regarding providing of objective evidence

CMP 1.3.2 Managing agreements with the OU regarding providing of objective evidence

#### KA 1.4 JUDGING PROCESSES

No competencies stipulated for this Knowledge Area.

#### KA 1.5 REPORTING OUTCOMES

CMP 1.5.1 Achieving agreements with affected stakeholders related to reporting appraisal outcomes

### CC 2 Decision Making and Problem Solving

#### KA 2.1 APPRAISAL PLANNING

CMP 2.1.1 Applying appropriate decision-making strategies in appraisal planning

#### KA 2.2 PREPARING TEAM AND PARTICIPANTS

CMP 2.2.1 Establishing decision-making and problem-solving mechanisms that appraisal team members will use

CMP 2.2.2 Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU

#### KA 2.3 MANAGING OBJECTIVE EVIDENCE

CMP 2.3.1 Deciding on the feasibility of the appraisal plan based on the status of objective evidence

#### KA 2.4 JUDGING PROCESSES

CMP 2.4.1 Defining the process for achieving consensus on the appraisal team

CMP 2.4.2 Facilitating problem-solving and decision-making activities

## **KA 2.5 REPORTING OUTCOMES**

CMP 2.5.1 Facilitating the resolution of problems and issues raised during reporting activities

## **CC 3 Project Planning and Management**

### **KA 3.1 APPRAISAL PLANNING**

CMP 3.1.1 Managing stakeholder involvement

CMP 3.1.2 Employing risk management techniques in the appraisal planning process

CMP 3.1.3 Addressing logistical considerations

CMP 3.1.4 Establishing and maintaining the appraisal schedule

CMP 3.1.5 Establishing monitoring methods that indicate progress against the plan

### **KA 3.2 PREPARING TEAM AND PARTICIPANTS**

CMP 3.2.1\* Selecting appraisal team members

CMP 3.2.2 Defining the appraisal team roles and responsibilities

### **KA 3.3 MANAGING OBJECTIVE EVIDENCE**

CMP 3.3.1 Managing the appraisal team's review of objective evidence

CMP 3.3.2 Managing appraisal team data

CMP 3.3.3 Monitoring the data collection plan

### **KA 3.4 JUDGING PROCESSES**

CMP 3.4.1 Planning the preliminary findings sessions

CMP 3.4.2 Managing activities for judging processes

### **KA 3.5 REPORTING OUTCOMES**

CMP 3.5.1 Planning the delivery of the final findings

CMP 3.5.2 Planning the executive session

## **CC 4 Interpersonal Communication and Facilitation**

### **KA 4.1 APPRAISAL PLANNING**

CMP 4.1.1 Eliciting information needed to effectively plan the appraisal

### **KA 4.2 PREPARING TEAM AND PARTICIPANTS**

CMP 4.2.1 Building the appraisal team

CMP 4.2.2 Establishing an environment that fosters effective communication

CMP 4.2.3 Preparing appraisal team members to perform their roles on the appraisal

CMP 4.2.4 Providing orientation to appraisal participants on the appraisal event

### **KA 4.3 MANAGING OBJECTIVE EVIDENCE**

CMP 4.3.1 Communicating to the OU the objective evidence that is needed

CMP 4.3.2 Preparing interview guidelines and strategy

CMP 4.3.3 Facilitating interviews

CMP 4.3.4 Facilitating appraisal team discussions on objective evidence

### **KA 4.4 JUDGING PROCESSES**

CMP 4.4.1 Facilitating appraisal team sessions for judging processes

CMP 4.4.2 Resolving conflicts related to judging processes

CMP 4.4.3 Soliciting feedback during preliminary findings sessions

**KA 4.5 REPORTING OUTCOMES**

CMP 4.5.1 Delivering positive and negative information with credibility and professionalism

CMP 4.5.2 Managing the final findings presentation

CMP 4.5.3 Facilitating discussions during the executive session

**CC 5 Integration, Articulation, and Expression of Information**

**KA 5.1 APPRAISAL PLANNING**

CMP 5.1.1 Generating the appraisal planning documents

CMP 5.1.2 Documenting needed changes to planning documents throughout the life of the appraisal

**KA 5.2 PREPARING TEAM AND PARTICIPANTS**

CMP 5.2.1 Presenting information in appraisal team training and in appraisal participant orientation

**KA 5.3 MANAGING OBJECTIVE EVIDENCE**

CMP 5.3.1 Identifying and clarifying the results of data collection and consolidation

**KA 5.4 JUDGING PROCESSES**

CMP 5.4.1 Recognizing and articulating possible alternative practices

CMP 5.4.2 Articulating the rationale for practice characterizations

CMP 5.4.3 Crafting preliminary findings

CMP 5.4.4 Presenting preliminary findings

CMP 5.4.5 Revising the preliminary findings statements into final findings

CMP 5.4.6 Articulating the basis for goal ratings

**KA 5.5 REPORTING OUTCOMES**

CMP 5.5.1 Summarizing and aggregating diverse findings

CMP 5.5.2\* Delivering appraisal results

**CC 6 Understanding and Adapting to Organizational Context**

**KA 6.1 APPRAISAL PLANNING**

CMP 6.1.1 Establishing cascading sponsorship of the appraisal

CMP 6.1.2\* Clarifying the OU's process improvement history

CMP 6.1.3\* Understanding the OU's business context and drivers for process improvement

**KA 6.2 PREPARING TEAM AND PARTICIPANTS**

CMP 6.2.1\* Identifying and managing language issues

CMP 6.2.2 Identifying and managing cultural issues

**KA 6.3 MANAGING OBJECTIVE EVIDENCE**

CMP 6.3.1 Accommodating the local culture when conducting interviews

#### **KA 6.4 JUDGING PROCESSES**

- CMP 6.4.1 Understanding the OU context and the culture's impact on process judgments
- CMP 6.4.2\* Understanding business goals and concerns as they impact process judgments
- CMP 6.4.3 Conducting preliminary findings sessions that accommodate the local culture
- CMP 6.4.4\* Recognizing mature organizational behavior

#### **KA 6.5 REPORTING OUTCOMES**

- CMP 6.5.1 Addressing inconsistencies between the OU's expectations and outcomes
- CMP 6.5.2 Accommodating the local culture when reporting outcomes
- CMP 6.5.3 Determining the most effective means of delivering results
- CMP 6.5.4 Recommending next steps for process improvement to the OU

### **CC 7 Model Interpretation**

#### **KA 7.1 APPRAISAL PLANNING**

- CMP 7.1.1 Interpreting the model in the context of the OU's structure and business goals

#### **KA 7.2 PREPARING TEAM AND PARTICIPANTS**

- CMP 7.2.1\* Preparing appraisal team members for model interpretation

#### **KA 7.3 MANAGING OBJECTIVE EVIDENCE**

- CMP 7.3.1 Determining relevance of objective evidence to individual practices

#### **KA 7.4 JUDGING PROCESSES**

- CMP 7.4.1\* Evaluating implementations of CMMI practices
- CMP 7.4.2 Recognizing strengths, weaknesses, and suggestions and differentiating among them
- CMP 7.4.3 Determining if alternative practices meet the model's intent
- CMP 7.4.4 Judging practices at the instantiation level
- CMP 7.4.5 Judging practices at the OU level and rating goals
- CMP 7.4.6 Generating non-CMMI findings

#### **KA 7.5 REPORTING OUTCOMES**

- CMP 7.5.1 Explaining model interpretation
- CMP 7.5.2 Explaining the rationale for practice characterizations and goal ratings

### **CC 8 SCAMPI Method Tailoring, Adaptation, and Application**

#### **KA 8.1 APPRAISAL PLANNING**

- CMP 8.1.1 Differentiating among the SCAMPI A, B, and C methods
- CMP 8.1.2 Making scoping decisions based on the appraisal goals and needs of the OU
- CMP 8.1.3 Determining the output options

#### **KA 8.2 PREPARING TEAM AND PARTICIPANTS**

- CMP 8.2.1 Effectively communicating tailoring decisions

### **KA 8.3 MANAGING OBJECTIVE EVIDENCE**

CMP 8.3.1 Ensuring that the objective evidence collected meets the method requirements

### **KA 8.4 JUDGING PROCESSES**

CMP 8.4.1 Applying practice characterization and rating rules

CMP 8.4.2 Preparing the final findings

### **KA 8.5 REPORTING OUTCOMES**

CMP 8.5.1\* Completing the Appraisal Disclosure Statement (ADS)

CMP 8.5.2 Collecting lessons learned from appraisal team members

CMP 8.5.3 Generating the appraisal record and delivering it to the appraisal sponsor

CMP 8.5.4 Informing the sponsor of the method requirements that affect the OU

CMP 8.5.5 Assembling and submitting the appraisal data package to the CMMI Steward

## **CC 9 Professionalism**

### **KA 9.1 APPRAISAL PLANNING**

CMP 9.1.1 Identifying, resolving, or mitigating actual or perceived conflicts of interest

CMP 9.1.2 Identifying areas for one's own personal and professional growth

CMP 9.1.3 Planning and implementing activities to promote one's own personal and professional growth

### **KA 9.2 PREPARING TEAM AND PARTICIPANTS**

CMP 9.2.1 Recognizing one's own personal suitability to lead a given appraisal

CMP 9.2.2 Identifying and resolving or mitigating known appraisal team member biases and issues

CMP 9.2.3 Setting appraisal participant and sponsor expectations regarding SCAMPI principles

### **KA 9.3 MANAGING OBJECTIVE EVIDENCE**

CMP 9.3.1 Ensuring that appraisal team members are ethical in managing objective evidence

### **KA 9.4 JUDGING PROCESSES**

CMP 9.4.1 Ensuring that appraisal team members are objective in judging processes

CMP 9.4.2 Seeking outside assistance when needed

### **KA 9.5 REPORTING OUTCOMES**

CMP 9.5.1 Maintaining non-attribution in reporting outcomes

CMP 9.5.2 Protecting confidentiality in reporting outcomes



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## Appendix B SLA BOK Competencies Table

The table on the following page contains all of the competencies in the SLA BOK organized by knowledge area and competency cluster.

## SCAMPI Lead Appraiser Body of

Knowledge Areas	Competency Clusters			
	CC1 Achieving and Managing Agreements	CC2 Decision Making and Problem Solving	CC3 Project Planning and Management	CC4 Interpersonal Communication and Facilitation
KA1 Appraisal Planning	1.1.1 Negotiating in the context of appraisal planning 1.1.2 Achieving agreements related to planning 1.1.3 Managing agreements related to planning	2.1.1 Applying appropriate decision-making strategies in appraisal planning	3.1.1 Managing stakeholder involvement 3.1.2 Employing risk management techniques in the appraisal planning process 3.1.3 Addressing logistical considerations 3.1.4 Establishing and maintaining the appraisal schedule 3.1.5 Establishing monitoring methods that indicate progress against the plan	4.1.1 Eliciting information needed to effectively plan the appraisal
KA2 Preparing Team and Participants	1.2.1 Achieving agreements with appraisal team members and other appraisal participants 1.2.2 Managing agreements with appraisal team members and other appraisal participants 1.2.3 Setting expectations with appraisal team members and other participants	2.2.1 Establishing decision-making and problem-solving techniques that appraisal team members will use 2.2.2 Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU	3.2.1 <i>Selecting appraisal team members*</i> 3.2.2 Defining the appraisal team roles and responsibilities	4.2.1 Building the appraisal team 4.2.2 Establishing an environment that fosters effective communication 4.2.3 Preparing appraisal team members to perform their roles on the appraisal 4.2.4 Providing orientation to appraisal participants on the appraisal event
KA3 Managing Objective Evidence	1.3.1 Achieving agreements with the OU regarding providing of objective evidence 1.3.2 Managing agreements with the OU regarding providing of objective evidence	2.3.1 Deciding on the feasibility of the appraisal plan based on the status of objective evidence	3.3.1 Managing the appraisal team's review of objective evidence 3.3.2 Managing appraisal team data 3.3.3 Monitoring the data collection plans	4.3.1 Communicating to the OU the objective evidence that is needed 4.3.2 Preparing interview guidelines and strategy 4.3.3 Facilitating interviews 4.3.4 Facilitating appraisal team discussions on objective evidence
KA4 Judging Processes	No competencies are stipulated for this knowledge area	2.4.1 Defining the process for achieving consensus on the appraisal team 2.4.2 Facilitating problem-solving and decision-making activities	3.4.1 Planning the preliminary findings sessions 3.4.2 Managing activities for judging processes	4.4.1 Facilitating appraisal team sessions for judging processes 4.4.2 Resolving conflicts related to judging processes 4.4.3 Soliciting feedback during preliminary findings sessions
KA5 Reporting Outcomes	1.5.1 Achieving agreements with affected stakeholders related to reporting appraisal outcomes	2.5.1 Facilitating the resolution of problems and issues raised during reporting activities	3.5.1 Planning the delivery of the final findings 3.5.2 Planning the executive session	4.5.1 Delivering positive and negative information with credibility and professionalism 4.5.2 Managing the final findings presentation 4.5.3 Facilitating discussions during the executive session

Note: \* *contains high maturity skills*

## Knowledge (SLA BOK) Competencies

CC5 Integration, Articulation, and Expression of Information	CC6 Understanding and Adapting to Organizational Context	CC7 Model Interpretation	CC8 SCAMPI Method Tailoring, Adaptation, and Application	CC9 Professionalism
<p>5.1.1 Generating the appraisal planning documents</p> <p>5.1.2 Documenting needed changes to planning documents throughout the life of the appraisal</p>	<p>6.1.1 Establishing cascading sponsorship of the appraisal</p> <p>6.1.2 <i>Clarifying the OU's process improvement history*</i></p> <p>6.1.3 <i>Understanding the OU's business context and drivers for process improvement*</i></p>	<p>7.1.1 Interpreting the model in the context of the OU's structure and business goals</p>	<p>8.1.1 Differentiating among the SCAMPI A, B, and C methods</p> <p>8.1.2 Making scoping decisions based on the appraisal goals and needs of the OU</p> <p>8.1.3 Determining the output options</p>	<p>9.1.1 Identifying, resolving, or mitigating actual or perceived conflicts of interest</p> <p>9.1.2 Identifying areas for one's own personal and professional growth</p> <p>9.1.3 Planning and implementing activities to promote one's own personal and professional growth</p>
<p>5.2.1 Presenting information in appraisal team training and in appraisal participant orientation</p>	<p>6.2.1 <i>Identifying and managing language issues*</i></p> <p>6.2.2 Identifying and managing cultural issues</p>	<p>7.2.1 <i>Preparing appraisal team members for model interpretation*</i></p>	<p>8.2.1 Effectively communicating tailoring decisions</p>	<p>9.2.1 Recognizing one's own personal suitability to lead a given appraisal</p> <p>9.2.2 Identifying and resolving or mitigating known team member biases and issues</p> <p>9.2.3 Setting appraisal participant and sponsor expectations regarding SCAMPI principles</p>
<p>5.3.1 Identifying and clarifying the results of data collection and consolidation</p>	<p>6.3.1 Accommodating the local culture when conducting interviews</p>	<p>7.3.1 Determining relevance of objective evidence to individual practices</p>	<p>8.3.1 Ensuring that the objective evidence collected meets the method requirements</p>	<p>9.3.1 Ensuring that appraisal team members are ethical in managing objective evidence</p>
<p>5.4.1 Recognizing and articulating possible alternative practices</p> <p>5.4.2 Articulating the rationale for practice characterizations</p> <p>5.4.3 Crafting preliminary findings</p> <p>5.4.4 Presenting preliminary findings</p> <p>5.4.5 Revising the preliminary findings statements into final findings</p> <p>5.4.6 Articulating the basis for goal ratings</p>	<p>6.4.1 Understanding the OU context and the culture's impact on process judgments</p> <p>6.4.2 <i>Understanding business goals and concerns as they impact process judgments*</i></p> <p>6.4.3 Conducting preliminary findings sessions that accommodate the local culture</p> <p>6.4.4 <i>Recognizing mature organizational behavior*</i></p>	<p>7.4.1 <i>Evaluating implementations of CMMI practices*</i></p> <p>7.4.2 Recognizing strengths, weaknesses, and suggestions and differentiating among them</p> <p>7.4.3 Determining if alternative practices meet the model's intent</p> <p>7.4.4 Judging practices at the instantiation level</p> <p>7.4.5 Judging practices at the OU level and rating goals</p> <p>7.4.6 Generating non-CMMI findings</p>	<p>8.4.1 Applying practice characterization and rating rules</p> <p>8.4.2 Preparing the final findings</p>	<p>9.4.1 Ensuring that appraisal team members are objective in judging processes</p> <p>9.4.2 Seeking outside assistance when needed</p>
<p>5.5.1 Summarizing and aggregating diverse findings</p> <p>5.5.2 <i>Delivering appraisal results*</i></p>	<p>6.5.1 Addressing inconsistencies between the OU's expectations and outcomes</p> <p>6.5.2 Accommodating the local culture when reporting outcomes</p> <p>6.5.3 Determining the most effective means of delivering results</p> <p>6.5.4 Recommending next steps for process improvement to the OU</p>	<p>7.5.1 Explaining model interpretation</p> <p>7.5.2 Explaining the rationale for practice characterizations and goal ratings</p>	<p>8.5.1 <i>Completing the Appraisal Disclosure Statement (ADS)*</i></p> <p>8.5.2 Collecting lessons learned from the appraisal team members</p> <p>8.5.3 Generating the appraisal record and delivering it to the appraisal sponsor</p> <p>8.5.4 Informing the sponsor of the method requirements that affect the OU</p> <p>8.5.5 Assembling and submitting the appraisal data package to the CMMI Steward</p>	<p>9.5.1 Maintaining non-attribution in reporting outcomes</p> <p>9.5.2 Protecting confidentiality in reporting outcomes</p>



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## Appendix C Related Competencies Sorted by Competency Number

- CMP 1.1.1 Negotiating in the context of appraisal planning
- CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
- CMP 1.1.2 Achieving agreements related to planning
- CMP 3.1.1, Managing stakeholder involvement
  - CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU
- CMP 1.1.3 Managing agreements related to planning
- CMP 3.1.1, Managing stakeholder involvement
- CMP 1.2.1 Achieving agreements with appraisal team members and other appraisal participants
- CMP 3.2.2, Defining the appraisal team roles and responsibilities
- CMP 1.2.2 Managing agreements with appraisal team members and other appraisal participants
- CMP 1.2.3 Setting expectations with appraisal team members and other appraisal participants
- CMP 3.1.1, Managing stakeholder involvement
  - CMP 3.2.2, Defining the appraisal team roles and responsibilities
- CMP 1.3.1 Achieving agreements with the organizational unit (OU) regarding providing of objective evidence
- CMP 3.1.4, Establishing and maintaining the appraisal schedule
  - CMP 4.3.1, Communicating to the OU the objective evidence that is needed
- CMP 1.3.2 Managing agreements with the OU regarding providing of objective evidence
- CMP 1.5.1 Achieving agreements with affected stakeholders related to reporting appraisal outcomes
- CMP 8.5.4, Informing the sponsor of the method requirements that affect the OU
  - CMP 9.5.1, Maintaining non-attribution in reporting outcomes
  - CMP 9.5.2, Protecting confidentiality in reporting outcomes
- CMP 2.1.1 Applying appropriate decision-making strategies in appraisal planning
- CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

- CMP 2.2.1 Establishing decision-making and problem-solving techniques that appraisal team members will use
- CMP 2.4.1, Defining the process for achieving consensus on the appraisal team
  - CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal
- CMP 2.2.2 Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU
- CMP 2.3.1, Deciding on the feasibility of the appraisal plan based on the status of objective evidence
- CMP 2.3.1 Deciding on the feasibility of the appraisal plan based on the status of objective evidence
- CMP 2.2.2, Deciding on the feasibility of the appraisal plan based on the readiness of the appraisal team and OU
  - CMP 4.3.1, Communicating to the OU the objective evidence that is needed
- CMP 2.4.1 Defining the process for achieving consensus on the appraisal team
- CMP 2.2.1, Establishing decision-making and problem-solving techniques that appraisal team members will use
- CMP 2.4.2 Facilitating problem-solving and decision-making activities
- CMP 2.5.1 Facilitating the resolution of problems and issues raised during reporting activities
- CMP 3.1.1 Managing stakeholder involvement
- CMP 1.1.2, Achieving agreements related to planning
  - CMP 1.1.3, Managing agreements related to planning
  - CMP 1.2.3, Setting expectations with appraisal team members and other appraisal participants
  - CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
  - CMP 4.2.4, Providing orientation to appraisal participants on the appraisal event
  - CMP 6.1.1, Establishing cascading sponsorship of the appraisal
- CMP 3.1.2 Employing risk management techniques in the appraisal planning process
- CMP 3.1.3 Addressing logistical considerations
- CMP 3.1.4 Establishing and maintaining the appraisal schedule
- CMP 3.1.5 Establishing monitoring methods that indicate progress against the plan
- CMP 1.3.1, Achieving agreements with the OU regarding providing of objective evidence
  - CMP 3.4.2, Managing activities for judging processes
- CMP 3.2.1 Selecting appraisal team members

- CMP 9.2.2, Identifying, resolving, or mitigating known team member biases and issues
- CMP 3.2.2 Defining the appraisal team roles and responsibilities
- CMP 1.2.1, Achieving agreements with appraisal team members and other appraisal participants
  - CMP 1.2.3, Setting expectations with appraisal team members and other appraisal participants
- CMP 3.3.1 Managing the appraisal team’s review of objective evidence
- CMP 3.1.5, Establishing monitoring methods that indicate progress against the plan
- CMP 3.3.2 Managing appraisal team data
- CMP 3.3.3 Monitoring the data collection plan
- CMP 5.1.1, Generating the appraisal planning document
  - CMP 5.1.2, Documenting needed changes to planning documents throughout the life of the appraisal
  - CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements
- CMP 3.4.1 Planning the preliminary findings sessions
- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
  - CMP 5.4.4, Presenting preliminary findings
- CMP 3.4.2 Managing activities for judging processes
- CMP 3.1.5, Establishing monitoring methods that indicate progress against the plan
  - CMP 4.4.1, Facilitating appraisal team sessions for judging processes
- CMP 3.5.1 Planning the delivery of the final findings
- CMP 4.5.2, Managing the final findings presentation
  - CMP 6.5.2, Accommodating the local culture when reporting outcomes
  - CMP 6.5.3, Determining the most effective means of delivering results
  - CMP 8.1.3, Determining the output options
  - CMP 8.4.2, Preparing the final findings
- CMP 3.5.2 Planning the executive session
- CMP 4.5.3, Facilitating discussions during the executive session
- CMP 4.1.1 Eliciting the information needed to effectively plan the appraisal
- CMP 1.1.1, Negotiating in the context of appraisal planning
  - CMP 3.1.1, Managing stakeholder involvement
  - CMP 5.1.1, Generating the appraisal planning documents
  - CMP 8.1.2, Making scoping decisions based on the appraisal goals and needs of the OU

- CMP 4.2.1 Building the appraisal team
- CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal
- CMP 4.2.2 Establishing an environment that fosters effective communication
- CMP 4.3.3, Facilitating interviews
  - CMP 4.3.4, Facilitating appraisal team discussions on objective evidence
  - CMP 4.4.3, Soliciting feedback during preliminary findings sessions
  - CMP 9.2.3, Setting appraisal participant and sponsor expectations regarding SCAMPI principles
- CMP 4.2.3 Preparing appraisal team members to perform their roles on the appraisal
- CMP 2.2.1, Establishing decision-making and problem-solving techniques that appraisal team members will use
  - CMP 4.2.1, Building the appraisal team
  - CMP 5.2.1, Presenting information in appraisal team training and in appraisal participant orientation
  - CMP 7.2.1, Preparing appraisal team members for model interpretation
- CMP 4.2.4 Providing orientation to appraisal participants on the appraisal event
- CMP 3.1.1, Managing stakeholder involvement
  - CMP 5.2.1, Presenting information in appraisal team training and in appraisal participant orientation
- CMP 4.3.1 Communicating to the OU the objective evidence that is needed
- CMP 1.3.1, Achieving agreements with the OU regarding providing of objective evidence
  - CMP 2.3.1, Deciding on the feasibility of the appraisal plan based on the status of objective evidence
  - CMP 5.1.1, Generating the appraisal planning documents
- CMP 4.3.2 Preparing interview guidelines and strategy
- CMP 4.3.3, Facilitating interviews
- CMP 4.3.3 Facilitating interviews
- CMP 4.2.2, Establishing an environment that fosters effective communication
  - CMP 4.3.2, Preparing interview guidelines and strategy
  - CMP 6.3.1, Accommodating the local culture when conducting interviews
- CMP 4.3.4 Facilitating appraisal team discussions on objective evidence
- CMP 4.2.2, Establishing an environment that fosters effective communication
- CMP 4.4.1 Facilitating appraisal team sessions for judging processes
- CMP 3.4.2, Managing activities for judging processes
  - CMP 5.4.6, Articulating the basis for goal ratings

- CMP 7.4.1, Evaluating implementations of CMMI practices
- CMP 4.4.2 Resolving conflicts related to judging processes
- CMP 4.4.3 Soliciting feedback during preliminary findings sessions
- CMP 3.4.1, Planning the preliminary findings sessions
  - CMP 4.2.2, Establishing an environment that fosters effective communication
  - CMP 5.4.3, Crafting preliminary findings
  - CMP 5.4.4, Presenting preliminary findings
  - CMP 6.4.3, Conducting preliminary findings sessions that accommodate the local culture
- CMP 4.5.1 Delivering positive and negative information with credibility and professionalism
- CMP 5.5.2, Delivering appraisal results
  - CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes
- CMP 4.5.2 Managing the final findings presentation
- CMP 3.5.1, Planning the delivery of the final findings
  - CMP 5.5.2, Delivering appraisal results
  - CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes
  - CMP 8.4.2, Preparing the final findings
- CMP 4.5.3 Facilitating discussions during the executive session
- CMP 3.5.2, Planning the executive session
- CMP 5.1.1 Generating the appraisal planning documents
- CMP 3.3.3, Monitoring the data collection plans
  - CMP 4.1.1, Eliciting information needed to effectively plan the appraisal
  - CMP 4.3.1, Communicating to the OU the objective evidence that is needed
  - CMP 5.1.2, Documenting needed changes to planning documents throughout the life of the appraisal
  - CMP 6.1.1, Establishing cascading sponsorship of the appraisal
- CMP 5.1.2 Documenting needed changes to planning documents throughout the life of the appraisal
- CMP 3.3.3, Monitoring the data collection plan
  - CMP 5.1.1, Generating the appraisal planning documents
  - CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements
- CMP 5.2.1 Presenting information in appraisal team training and in appraisal participant orientation
- CMP 4.2.3, Preparing appraisal team members to perform their roles on the appraisal

- CMP 4.2.4, Providing orientation to appraisal participants on the appraisal event
- CMP 5.3.1 Identifying and clarifying the results of data collection and consolidation
- CMP 7.3.1, Determining relevance of objective evidence to individual practices
  - CMP 8.3.1, Ensuring that the objective evidence collected meets the method requirements
- CMP 5.4.1 Recognizing and articulating possible alternative practices
- CMP 7.4.3, Determining if alternative practices meet the model's intent
- CMP 5.4.2 Articulating the rationale for practice characterizations
- CMP 7.5.2, Explaining the rationale for practice characterizations and goal ratings
- CMP 5.4.3 Crafting preliminary findings
- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
- CMP 5.4.4 Presenting preliminary findings
- CMP 3.4.1, Planning the preliminary findings sessions
  - CMP 4.4.3, Soliciting feedback during preliminary findings sessions
  - CMP 6.4.3, Conducting preliminary findings sessions that accommodate the local culture
- CMP 5.4.5 Revising the preliminary findings statements into final findings
- CMP 5.5.1, Summarizing and aggregating diverse findings
  - CMP 8.4.2, Preparing the final findings
- CMP 5.4.6 Articulating the basis for goal ratings
- CMP 4.4.1, Facilitating appraisal team sessions for judging processes
  - CMP 7.4.5, Judging practices at the OU level and rating goals
  - CMP 7.5.2, Explaining the rationale for practice characterizations and goal ratings
- CMP 5.5.1 Summarizing and aggregating diverse findings
- CMP 5.4.5, Revising the preliminary findings statements into final findings
  - CMP 6.5.2, Accommodating the local culture when reporting outcomes
- CMP 5.5.2 Delivering appraisal results
- CMP 4.5.1, Delivering positive and negative information with credibility and professionalism
  - CMP 4.5.2, Managing the final findings presentation
  - CMP 6.5.1, Addressing inconsistencies between the OU's expectations and outcomes
  - CMP 6.5.2, Accommodating the local culture when reporting outcomes

- CMP 6.5.3, Determining the most effective means of delivering results
  - CMP 6.5.4, Recommending next steps for process improvement to the OU
  - CMP 8.5.1, Completing the Appraisal Disclosure Statement (ADS)
- CMP 6.1.1 Establishing cascading sponsorship of the appraisal
- CMP 3.1.1, Managing stakeholder involvement
  - CMP 5.1.1, Generating the appraisal planning documents
- CMP 6.1.2 Clarifying the OU's process improvement history
- CMP 6.1.3 Understanding the OU's business context and drivers for process improvement
- CMP 6.4.2, Understanding business goals and concerns as they impact process judgments
  - CMP 6.5.4, Recommending next steps for process improvement to the OU
  - CMP 7.1.1, Interpreting the model in the context of the OU's structure and business goals
- CMP 6.2.1 Identifying and managing language issues
- CMP 6.5.3, Determining the most effective means of delivering results
- CMP 6.2.2 Identifying and managing cultural issues
- CMP 6.3.1 Accommodating the local culture when conducting interviews
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- CMP 6.4.1 Understanding the OU context and the culture's impact on process judgments
- CMP 7.2.1, Preparing appraisal team members for model interpretation
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- CMP 6.1.3, Understanding the OU's business context and drivers for process improvement
- CMP 6.4.3 Conducting preliminary findings sessions that accommodate the local culture
- CMP 4.4.3, Soliciting feedback during preliminary findings sessions
  - CMP 5.4.4, Presenting preliminary findings
- CMP 6.4.4 Recognizing mature organizational behavior
- CMP 7.4.1, Evaluating implementations of CMMI practices
- CMP 6.5.1 Addressing inconsistencies between the OU's expectations and outcomes

- CMP 4.5.1, Delivering positive and negative information with credibility and professionalism
  - CMP 4.5.2, Managing the final findings presentation
  - CMP 5.5.2, Delivering appraisal results
- CMP 6.5.2 Accommodating the local culture when reporting outcomes
- CMP 3.5.1, Planning the delivery of the final findings
  - CMP 5.5.1, Summarizing and aggregating diverse findings
  - CMP 5.5.2, Delivering appraisal results
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  - CMP 5.5.2, Delivering appraisal results
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- CMP 5.5.2, Delivering appraisal results
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  - CMP 7.5.1, Explaining model interpretation
- CMP 7.1.1 Interpreting the model in the context of the OU's structure and business goals
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- CMP 7.2.1 Preparing appraisal team members for model interpretation
- CMP 4.2.3, Preparing team members to perform their roles on the appraisal
  - CMP 6.4.1, Understanding the OU context and the culture's impact on process judgments
- CMP 7.3.1 Determining the relevance of objective evidence to individual practices
- CMP 5.3.1, Identifying and clarifying the results of data collection and consolidation
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- CMP 7.4.3 Determining if alternative practices meet the model's intent
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<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave Blank)	2. REPORT DATE October 2007		3. REPORT TYPE AND DATES COVERED Final	
4. TITLE AND SUBTITLE SCAMPI Lead Appraiser <sup>SM</sup> Body of Knowledge (SLA BOK)			5. FUNDING NUMBERS FA8721-05-C-0003	
6. AUTHOR(S) Steve Masters, Sandi Behrens, Judah Mogilensky, Charlie Ryan				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Software Engineering Institute Carnegie Mellon University Pittsburgh, PA 15213			8. PERFORMING ORGANIZATION REPORT NUMBER CMU/SEI-2007-TR-019	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ ESC/XPK 5 Eglin Street Hanscom AFB, MA 01731-2116			10. SPONSORING/MONITORING AGENCY REPORT NUMBER ESC-2007-TR-019	
11. SUPPLEMENTARY NOTES				
12A DISTRIBUTION/AVAILABILITY STATEMENT Unclassified/Unlimited, DTIC, NTIS			12B DISTRIBUTION CODE	
13. ABSTRACT (MAXIMUM 200 WORDS) The Standard CMMI Appraisal Method for Process Improvement (SCAMPI <sup>SM</sup> ) is designed to provide benchmark quality ratings relative to Capability Maturity Model Integration <sup>®</sup> (CMMI <sup>®</sup> ) models. The role of the SCAMPI Lead Appraiser, who conducts the SCAMPI process, has developed into a distinct profession that encompasses a wide and deep array of competencies. The SCAMPI Lead Appraiser Body of Knowledge (SLA BOK) provides a multi-dimensional view of the competencies and associated skills that are needed to be a successful SCAMPI Lead Appraiser. The SLA BOK is a driver for the SEI Appraisal Program's approach to ensure quality of SCAMPI appraisals. It establishes a comprehensive basis for curriculum, training, certification, observation, and quality assurance programs.				
14. SUBJECT TERMS Competencies, competency cluster, knowledge area, SCAMPI Lead Appraiser Body of Knowledge, CMM, SLA BOK			15. NUMBER OF PAGES 119	
16. PRICE CODE				
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	