

ELECTRONIC RECORDS ARCHIVES

CONFIGURATION MANAGEMENT PLAN
(CMP)

(TOMP Version 2.0, TASK 4.3.3)

for the

**NATIONAL ARCHIVES AND
RECORDS ADMINISTRATION**

**ELECTRONIC RECORDS ARCHIVES
PROGRAM MANAGEMENT OFFICE
(NARA ERA PMO)**

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PREPARED BY:

Integrated Computer Engineering, Inc.
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SIGNATURE PAGE**

Program Director,

I recommend approval of the ERA Configuration Management Plan (CMP).

Virginia White,
ERA Program

Date

Approved,

Kenneth Thibodeau,
ERA Program Director

Date

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DOCUMENT CHANGE CONTROL SHEET

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Configuration Management Plan (CMP)

1.0 Introduction

This document describes all Configuration Management (CM) activities for the Electronic Records Archives (ERA) Program. This *Configuration Management Plan (CMP)* defines the schedules, functions, responsibilities, and procedures for controlling the system configuration during the development, testing, and deployment of the ERA system. The intended audience for this document is the ERA Program Management Office (PMO), ERA development team, National Archives and Records Administration (NARA) management, and other government management who have oversight over ERA. The *CMP* for the ERA program used the IEEE Standard 828-1998, IEEE Standard for Software Configuration Management Plans, as a basis and it was tailored to meet the specific needs of ERA. As an ERA PMO document, this plan focuses on the management aspect of CM from the perspective of the acquirer.

1.1 Purpose of Document

The purpose of this document is to establish an integrated process for identifying, documenting, monitoring, evaluating, controlling, and approving all changes to work products throughout the life cycle of the program.

This *CMP* describes the configuration management structure as well as the CM standards and practices that will be implemented to manage the development and operation of ERA.

1.2 ERA Program Overview

ERA will be a comprehensive, systematic, and dynamic means for preserving virtually any kind of electronic record, free from dependence on any specific hardware or software. ERA, when operational, will make it easy for NARA customers to find records they want and easy for NARA to deliver those records in formats suited to customers' needs.

1.3 Scope of Document

The development and implementation of ERA will be accomplished incrementally. Each increment will add functionality to the system and may alter or replace existing components. Over time, the system will experience changes such as updating of documentation and components, and alterations of external interfaces. CM for the system will encompass all changes to the system before design and through concept development, initial production, and operations and support of the system. Details regarding the coordination of release planning and control will not be described in this plan. Assumptions and limitations are listed in **Section 3.1.1.3, CI Type – Hardware**, see Note.

This plan applies to all requirements, software, hardware, and associated documentation related to the ERA system or program that are formally created and accepted by the ERA PMO. It concentrates on the formal CM for the ERA PMO, and provides guidelines for the development level CM that is the responsibility of development contractor(s). The Configuration Items (CIs)

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that will be managed and controlled include documentation, releases, hardware, and software (including executable code, source code, compilers, environments, etc.) The *CMP* defines the configuration management activities for the life cycle of ERA, according to the *ERA Program Management Plan (PMP)* document.

1.4 Definitions and Acronyms

The technical terms used in this plan are defined in IEEE Std 610.12-1990, *IEEE Standard Glossary of Software Engineering Terminology*. **Table 1-1, Acronyms List**, contains a list of acronyms used herein.

ACRONYM	DEFINITION
ABL	Allocated Baseline
AoA	Analysis of Alternatives
AS	Acquisition Strategy
CCB	Configuration Control Board
CI	Configuration Item
CM	Configuration Management
CMG	Configuration Management Guidance
CMP	Configuration Management Plan
CMRS	Case Management Reporting System (St. Louis Facility)
COP	Concept of Operations
COTS	Commercial Off The Shelf
CP	Change Proposal
CPF	Change Proposal Form
CPP	Configuration Management PVCS Procedures
CR	Change Request
CRF	Change Request Form
EGOV	Quicksilver E-Government Initiative
ELC	ERA Life Cycle
ERA	Electronic Records Archives
ERB	Engineering Review Board
FBL	Functional Baseline
FCA	Functional Configuration Audit
GRS	General Records Schedules
IEEE	Institute of Electrical and Electronics Engineers
IRD	Interface Requirements Document
IVVP	Independent Verification and Validation Plan
MP	Metrics Plan
NARA	National Archives and Records Administration
NARANET	NARA Network
OFAS	Order Fulfillment & Accounting System
PBL	Product Baseline
PCA	Physical Configuration Audit

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ACRONYM	DEFINITION
PD	Program Director
PERPOS	Presidential Electronic Records Processing System
PM	Project Manager
PMO	Program Management Office
PMP	Program Management Plan
POST	Program Office Support Team
PVCS	Polytron Version Control System
QM	Quality Management
QMP	Quality Management Plan
QPP	Quality Management Processes and Procedures
RD	Requirements Document
RKM	Risk Management Plan
RQM	Requirements Management Plan
RR	Requirements Review
Std	Standard
TBD	To Be Determined
TEP	Technical Review Process
TRA	Training Needs Assessment
TSP	Testing Management Plan
WBS	Work Breakdown Structure

Table 1-1: Acronyms List

1.5 References

The standards, guidelines, and documentation used to develop the CMP are described in the sections that follow.

1.5.1 ERA PMO Documents

The following ERA PMO documentation was used to support the generation of this document.

- Testing Management Plan (TSP), Version 2.1
- Metrics Plan (MP), Version 1.2
- ERA Life Cycle (ELC), Version 1.1
- Risk Management Plan (RKM), Version 1.0
- Requirements Management Plan (RQM), Version 1.3
- Configuration Management Plan (CMP), Version 2.0
- Configuration Management Guidance (CMG), Version 1.0
- Configuration Management PVCS Procedures, Version 1.0
- Quality Management Processes and Procedures (QPP), Version 1.0
- Acquisition Strategy (AS), Version 2.1
- Quality Management Plan (QMP), Version 2.0
- Program Management Plan (PMP), Version 1.2

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- Concept of Operations (COP), Version 1.1
- Training Needs Assessment (TRA), Version 2.0
- Technical Review Process (TEP), Version 1.0
- Interface Requirements Document (IRD) Future, and
- Independent Verification and Validation Plan (IVVP) In-Progress.

1.5.2 Standards and Guidelines

The standards and guidelines used in preparation of this document are listed below.

- IEEE Std. 610.12-1990, IEEE Standard Glossary of Software Engineering Terminology
- IEEE Std. 828-1998, IEEE Standard for Software Configuration Management Plans
- General Records Schedules (GRS) 24
- OMB Circular A-130, Management of Federal Information Resources

2.0 CM Management

This section contains organizational information that is specific to ERA and will address the following:

- Organization,
- Roles and responsibilities,
- The organizational entities versus their responsibilities, and
- The applicable policies, standards, and procedures.

2.1 Organization

The PMO CM Organization consists of representatives from ERA and contractors in each of the following roles.

- Program Director
- QM Specialist
- Configuration Control Board (CCB)
- CM Specialist
- CM Team (includes other resources)
- Development Contractor
- Engineering Review Board (ERB)
- Testing Officer/Testing Team

The PMO CM Group consists of the CM Specialist, CM Team members and other resources. The PMO CM Group reports to the Program Director. Splinter PMO CM groups such as CCB, and ERB consist of representatives from the PMO including CM, QM, System Engineers, and Testing.

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The ERA organizational structure as it relates to CM is illustrated in **Figure 2-1, PMO CM Organization.**

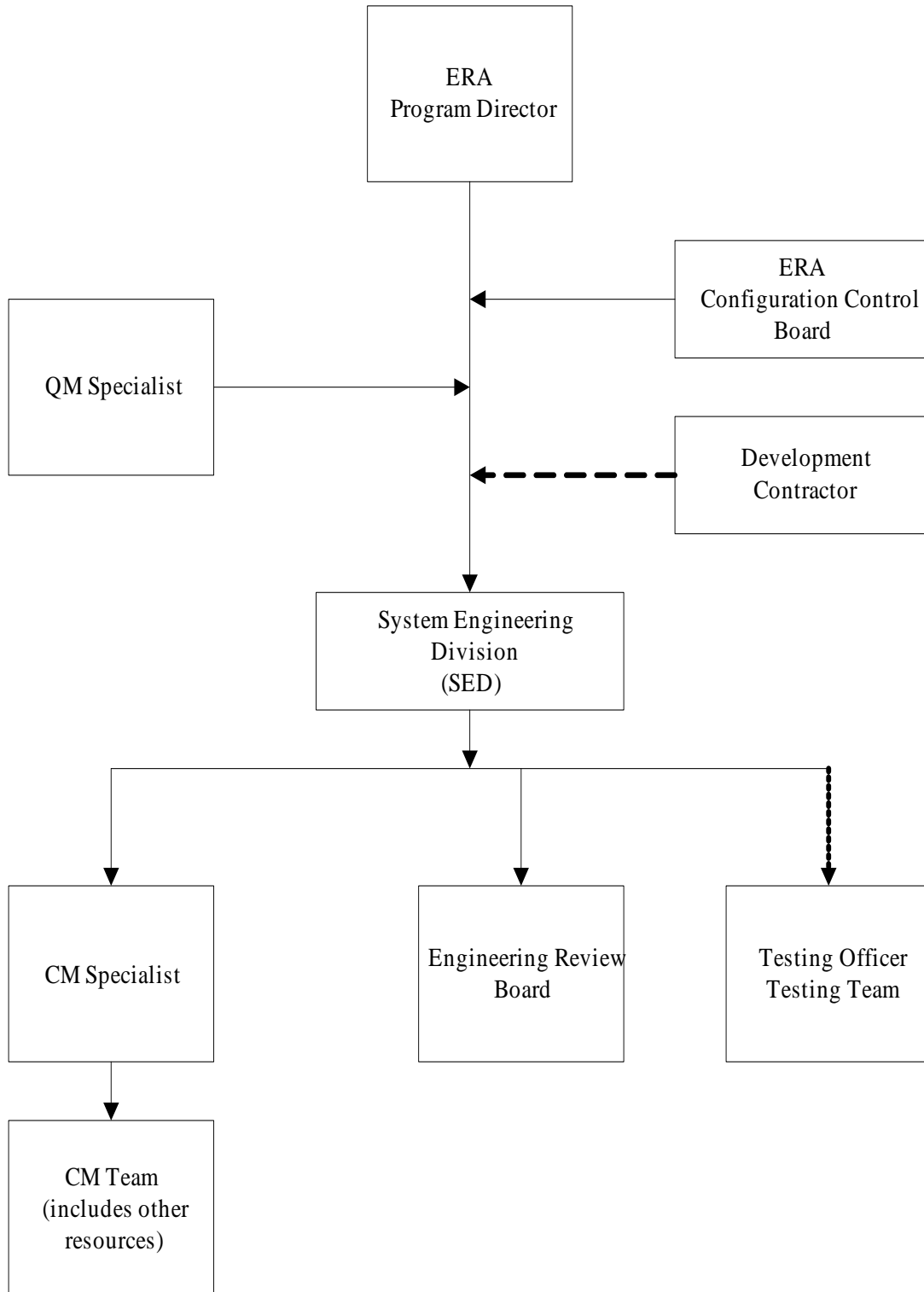


Figure 2-1: PMO CM Organization

2.2 Roles and Responsibilities

Table 2-1, CM Organization Roles and Responsibilities, lists the primary responsibilities of each role of the CM Organization.

Roles	Required Responsibilities
Program Director	<ul style="list-style-type: none"> • Responsible for overall CM activities within ERA program. • Provides the resources necessary for CM. • Ensures that support team leads and other persons in management or supervisory roles support the objectives of this CMP. • Has authority to designate others to make configuration management decisions or to chair the CCB on behalf of the PD. • Resolves open CCB issues by making the final decision.
QM Specialist	<ul style="list-style-type: none"> • Responsible for leading and overseeing all QM activities, reporting those activities to senior program management, and performing quality reviews. • Audits CM program and implementation of the CM program. • Ensures CM audits are conducted on all baselines. • Participates in the Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA). • Collects metrics and creates reports for ERA management to assist in quality control. • Ensures documented procedures exist for CM and that they are followed. • Ensures existing artifacts represent CM process adherence. • Member of the CCB and the ERB.
Configuration Control Board (CCB) (refer to Section 6.1, CCB Responsibilities and Procedures for additional information)	<ul style="list-style-type: none"> • Ensures that proposed changes are evaluated with respect to their impact on other program elements (especially cost, performance, schedule, and functionality). • Reviews and approves or denies all proposed changes to CIs • Ensures that all approved changes are justified. • Ensures that only approved changes are

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Roles	Required Responsibilities
	<p>implemented.</p> <ul style="list-style-type: none"> • Ensures that proposed changes are properly classified. • Determines urgency for incorporated changes. • Approves all CI baselines and all changes to CI baselines. • Meets monthly (or on an emergency basis) to resolve all outstanding change requests. • Assists in determining which products will be baselined or managed the method to be used, and the order in which they should be done.
<p>CM Specialist</p>	<ul style="list-style-type: none"> • Responsible for reporting all CM activities to the ERA PD. • Directs the configuration management effort, and resolves problems and situations that may arise during the ERA effort. • Creates and maintains the CMP. • Oversees CMP implementation and development of detailed CM procedures. • Coordinates all CM activities. • Performs CM audits to ensure that all application software and documentation is maintained in accordance with project standards. • Performs CM baseline audits prior to closing baselines. • Ensures configuration data is kept up-to-date. • Ensures software baselines are documented, maintained, and controlled. • Ensures CM Team and program personnel have received adequate CM and CM tool training. • Assists user organizations in presenting and coordinating change requests. • Tracks and reports overall program CM status to the ERA PD. • Identifies risks, provides related data to the ERA Risk Officer, and implements appropriate risk management measures. • Coordinates with the development contractor's CM. • Creates and maintains adequate and reliable CM records.

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Roles	Required Responsibilities
CM Team	<ul style="list-style-type: none"> • Supports the CM Specialist in executing all CM activities and responsibilities. • Assumes the role of CM and performs duties of CM in the event the CM Specialist is absent.
Development Contractor	<ul style="list-style-type: none"> • Responsible for all CM activities internal to the actual system development. • Responsible for delivering the products necessary to create the baselines and releases. • Ensures CM tools are compatible with those of the ERA PMO. • Responsible for creation and implementation of a working CMP.
Engineering Review Board (ERB) (refer to Section 6.2, ERB Responsibilities and Procedures for additional information)	<ul style="list-style-type: none"> • Assists in the technical evaluation review of change proposals. • Conducts impact analysis of change proposals. • Evaluates the cost, performance, and schedule impact of change proposals, and provides a recommendation to the CCB.
Testing Officer/Testing Team	<ul style="list-style-type: none"> • Submits Change Requests (CRs) against releases of the system and modifications to CIs that are the results of enhancements and/or defects identified during testing. Internal integration testing will be subject to a formal change process.

Table 2-1: CM Organization Roles and Responsibilities

2.3 Organizational Entities versus Responsibilities Matrix

Table 2-2, Roles versus Responsibilities Matrix, shows the organizational entities versus their responsibilities (the details of the activities are defined in **Section 3.0**):

Responsibilities	PD	QM	CCB	CM Specialist	Contractor	ERB	Users/ Testers
Baseline Definition			A	R	O		
Change Evaluation		R	A			O	
Change Approval			A				
Configuration Control			O				
Configuration ID		R		O			
Development CM		R		R	O,R,A		
Formal Audits/Reviews		O,R		O			
Problem Reporting	O	O	R	O	O	O	O
Status Accounting	A	R		O			

Table 2-2: Roles versus Responsibilities Matrix

Key: **O** = Originate, **R** = Review, **A** = Approve

2.4 Applicable Policies, Standards, and Procedures

Listed below are policies, standards, and procedures that have an impact on the execution of this plan.

2.4.1 ERA Policies

Listed below are policies that have an impact on the execution of this plan.

CM policies – Reference the *ERA Configuration Management Guidance (CMG)*;

2.4.2 ERA Standards

Listed below are standards that have an impact on the execution of this plan.

- Documentation Standards – Refer to **Section 3.1, Configuration Identification**
- Coding Standards - TBD
- Unit Test, System Test, Development Test, and Acceptance Test Plan Standards – Refer to the *ERA Testing Management Plan (TSP)*
- Metric Standards – Refer to the *ERA Metrics Plan (MP)*
- Risk Assessment Standards – Refer to the *ERA Risk Management Plan (RKM)*

2.4.3 ERA PMO Procedures

Listed below are procedures that have an impact on the execution of this plan.

- Standard identification procedures – See **Section 3.1 Configuration Identification**;
- Managing change process – See **Section 3.2 Configuration Control**;
- Status account procedures – See **Section 3.3.2 CM Metrics Reports**;
- Procedures for accessing Configuration Items (CIs) – Reference the *ERA Configuration Management PVCS Procedures (CPP)*;
- Problem Reporting procedures – Reference the Problem Reporting and Corrective Action section of the *ERA Quality Management Plan (QMP)*;
- Procedures for audits – See **Section 3.4 Configuration Audits and Reviews**; and
- Procedures for assessments – Reference the **Internal Assessment/Audits** section of the *ERA Quality Management Plan (QMP)*.

3.0 CM Activities

CM activities include all functions and tasks required in managing the CIs of the system as specified in the scope of this plan. Both technical and managerial CM activities shall be identified and controlled through implementation of the following CM processes.

- Configuration Identification
- Configuration Control
- Configuration Status Accounting
- Configuration Audits and Reviews
- Interface Control
- Subcontractor/Vendor Control

3.1 Configuration Identification

Configuration identification is an element of configuration management, consisting of selecting the configuration items for a product, assigning unique identifiers to them, and recording their functional and physical characteristics in technical documentation. These characteristics are called CIs. Refer to **Appendix A, ERA Configuration Items List (Sample List)**, for a sample of the document based identification scheme.

Note: The naming conventions for test data and test software will be added in the next scheduled update of this plan.

3.1.1 Identifying Configuration Items

There are five types of CIs:

- Documents,
- Baselines,
- Hardware,

- Software, and
- Commercial Off The Shelf (COTS).

All deliverable items (see **Appendix A**) related to the ERA system are defined and maintained as CIs. The CM Specialist may also identify other work products as CIs.

3.1.1.1 CI Type – Documents

All deliverable documents (including *ERA Acquisition Strategy (AS)* Document, *CMP*, *RQM*, *RKM*, *QMP*, etc.) must follow the naming conventions specified later in this section. All documents are placed into a document library after initial formal approval. Any change to the document following initial PMO approval must follow the configuration control procedures. The current list of deliverable documents and their status can be found in the *PMP*.

3.1.1.2 CI Type – Baselines

Baselines are composed of CIs at a specific point in time or a program milestone. The baselines are used to maintain traceability of changes to the CIs throughout the life cycle. The ERA CCB authorizes the creation of new baselines, promotes baselines, and approves any changes to a baseline. Baselines will be tracked, audited, retained, and version controlled in the Polytron Version Control System (PVCS) Version Manager CM tool.

There are four different types of baselines for ERA: functional, allocated, product, and production. Product and production baselines include all of the software and hardware required to run the ERA system in a production environment.

The baselines and their contents are as follows:

- **Functional Baseline (FBL)** A functional baseline is established following the Requirements Review (RR) and delivery of required documentation to the CM Specialist. Reference the *ERA Technical Review Process (TEP)* document for additional information on the review process. The CM Specialist verifies that all required documents and configuration items are established properly. The CIs in the functional baseline include the *ERA Concept of Operations (COP)*, the *PMP* and associated management documents (such as the *CMP*, *RQM*, *QMP*, etc.).
- **Allocated Baseline (ABL)** An allocated baseline is established at the end of the design phase (prior to development). The CM Specialist verifies that all required documents and configuration items are established properly. The CIs in the allocated baseline include all preliminary system designs, detailed system designs, and associated test plans. Reference the *ERA Independent Verification and Validation Plan (IVVP)* for additional information on the verification and validation process.
- **Product Baseline (PBL)** A product baseline is established for each release of the system at the end of the acceptance testing phase. The CM Specialist verifies that the tested product is exactly described in the product baseline documents. It includes all

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CI, CM data, system test plan reports, acceptance test plan reports, manuals, and other plan documents. Reference the *ERA Testing Management Plan (TSP)* for additional information on the testing process.

- **Production Baseline.** A production baseline is operational when it is established at the end of each release or when a major change to the baseline takes place. It is established at the end of acceptance testing of that release. It includes all CIs, CM data, system test plan reports, acceptance test plan reports, manuals, and other plan documents as the product baseline. The production baseline is the actual system release in use.

3.1.1.3 CI Type – Hardware

ERA hardware includes the physical equipment required for designing, building, testing, and running the system. Each CI of the hardware system will be given a name and entered into the designated CM tool. A listing of the components of the hardware configuration items will be documented and the document will be placed as a hardware CI in the library system. The document is updated each time a piece of equipment is added, changed, or removed from use.

Note: Assumptions and limitations to be considered in establishing Hardware CIs; hardware and workstation configurations change frequently, there is not a “standard” infrastructure configuration; and, the effort to perform an upgrade is highly dependent on the type of upgrade performed.

3.1.1.4 CI Type – Software

Software includes all non-document files needed to create a running ERA system. Each software file is named according to conventions listed below and placed in the library system.

3.1.1.5 CI Type – COTS

COTS software includes all commercial software packages (e.g., operating system software) purchased to support the project. Each software file is named according to conventions listed below and placed in the library system.

3.1.2 Naming Configuration Items

This section describes the methods for naming controlled items for the purpose of storage, retrieval, tracking, reproduction, and distribution. The format for naming CIs is as follows:

Project.CI Type.CI Subtype-name where:

- Project is the name of the high-level activity such as ERA, AAD, PERPOS, or EGOV. Projects named in CM documents must be approved by the CM Specialist.
- CI type is the mid-level name with a two character field, where the characters are either:

HW for hardware,
SW for software,
DC for documents,
BL for baseline, and
CO for COTS.

- CI subtype is the sub-level name under the CI-Type, with a two, three or four-character field.
- Meaning is a name from the task list or name of the particular product

3.1.2.1 Hardware, Software, and COTS Naming Convention

Table 3-1, Hardware/Software/COTS CI Naming Conventions, lists the Hardware, Software and COTS CI Naming Conventions.

CI Type	CI subtype	Meaning
HW	SVR	Servers
	LIC	Licensing Info
	PLAT	Network and any platform configuration items, etc.
SW	WBS	Web Server
	DBS	Database Server
	APS	Application Server
	SPS	Support Server
	CWS	Client Workstation
	INS	Installation Scripts
CO	WBS	Web Server
	DBS	Database Server
	APS	Application Server
	SPS	Support Server

Table 3-1: Hardware/Software CI Naming Conventions

Naming convention examples for Hardware, Software and COTS components follow:

ERA_HW_SVR_name – shows type of server
 ERA_HW_LIC_name – shows licensing information

ERA_SW_TBD - indicates the system software folder
 ERA_CO_TBD – indicates the system COTS folder

3.1.2.2 Documents Naming Convention

The format for naming document CIs is as follows:

Project.DC.CI Subtype.x.y (x = approved version number and y= working version number)

All documents will be labeled with a working version number (**y = 0.01**) as they go through changes, and all approved documents will receive a whole number designation (**x = 1.0**).

Table 3-2, Document CI Naming Conventions, lists the Document CI Naming Conventions.

CI Type	CI subtype	Meaning
DC	AOA	Analysis of Alternatives
	QMP	Quality Management Plan
	RKM	Risk Management Plan
	TSP	Testing Management Plan
	TRP	PMO Training Plan

Table 3-2: Document CI Naming Conventions

Naming convention examples for documents follow:

ERA.DC indicates the ERA system documents folder. DC folder is grouped according to the document type (CI Sub-types):

ERA.DC.CMP.0.01.doc – working version (deliverable) of the Configuration Management Plan

ERA.DC.CMP.1.0.doc – final version (deliverable) of the Configuration Management Plan

ERA.DC.CMP.1.1.doc – minor revision (deliverable) to the final version of the Configuration Management Plan

ERA.DC.CMP.2.0.doc – major revision (deliverable) to the original version of the Configuration Management Plan

3.1.2.3 Baseline Naming Convention

All baseline components will be labeled with the release and version number as they go through the changes. These numbers change dynamically throughout the project life cycle; therefore they are not embedded as part of the configuration identification number.

Use the following convention for naming baselines:

ERA.BLx.Raa.Vbb.cc

Project	CI Type	Life Cycle Phase	Meaning
ERA	BL	(1)	Functional Baseline
		(2)	Allocated Baseline
		(3)	Product Baseline
		(4)	Production Baseline

- **Project** is the name of the high-level activity such as ERA, AAD, PERPOS, or EGOV. Project names in baselines must be approved by the CM Specialist.

- **BL** identifies the baseline

x is the baseline life cycle phase where

- 1 identifies Functional Baseline
- 2 identifies Allocated Baseline
- 3 identifies Product Baseline
- 4 identifies Production Baseline

- **R** identifies the release
- **aa** indicates the number of major changes to that component within the indicated life cycle phase and builds stage. It is increased by one with each successive build, and is reset to 01 when a new release is defined.
- **V** identifies the version
- **bb** indicates the number of minor changes to that release of the component within the indicated life cycle phase and stage. It is increased by one with each successive change, and is reset to 01 when a new release is defined.
- **cc** indicates the number of minor changes to the specific version within the indicated life cycle phase and stage. It is increased by one with each successive change, and is reset to 01 when a new version is defined.

Naming convention examples for baselines:

BL1.R01.V01.02 indicates a functional baseline, release 01, version 01, and minor change number 02 within the version 01.

BL2.R02.V02.01 indicates an allocated baseline, release 02, version 02, and minor change number 01 within the version 02.

3.1.3 Acquiring Configuration Items

A library or repository is for storing documents, magnetic media and controlling CIs. Library management is the underlying process for ingesting, maintaining and disseminating the contents of the libraries. When a work product is approved, it is placed into a library and under configuration control (See **Appendix A, ERA Configuration Items List (Sample List)** for a sample of current CIs). The library system for ERA is PVCS Version Manager. The procedures for reproducing, storing, accessing, and retrieving CIs are described in the *ERA Configuration Management PVCS Procedures (CPP)* document. All CIs placed in the library will be retained according to NARA's records retention schedule for the ERA PMO. (See **Section 4.4, Records Retention Schedule**)

3.2 Configuration Control

Configuration control is the process of requesting, evaluating, approving or disapproving proposed changes to baseline CIs. If approved, they are incorporated into the configuration library. Configuration control extends throughout the project life cycle, from Concept Exploration phase through retirement of the ERA system. This document is only concerned with formal CM, where all changes are controlled by the CCB. See **Appendix B, ERA Change Request Process Flowchart**, which shows the sequence of steps for each change request (same process associated with Action Items (problem reports), and requirement changes). For a description and layout of the record used for tracking and documenting a change request, see **Appendix D, ERA Change Request Form Instructions**.

3.2.1 Requesting Changes

A Change Request (CR) starts with documenting the change on the ERA Change Request Form (CRF), which is entered into the ERA Change Request database. All team members, users, testers, or contractors can submit a change request. See **Appendix C, ERA Change Request Form** and **Appendix D, ERA Change Request Form Instructions** for more detailed information.

The Change Request database assigns a control number to each change request when entered, in the following format:

CR-zzz-PMO-xxxx-y (e.g., **CR - ERA-PMO-DCMT-1**) where:

- CR – indicates Change Request
- zzz – indicates PMO Project
 - ✓ ERA – Electronic Records Archives
- PMO – indicates Program Management Office
- xxxx – this designates the type of change
 - ✓ BSLN – Baseline
 - ✓ DCMT – Document
 - ✓ HRDW – Hardware
 - ✓ OTHR – Other
 - ✓ SFTW -Software

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- y – this number is increased by one with each CR submitted with same type of change

3.2.2 Approving or Disapproving Requested Changes

The CCB will adjudicate all change requests (see Note below). The change request form is annotated to reflect the CCB decision on the resolution status of the change request, as listed below (see **Section 6.1.6, Configuration Control Board Decision Process** for additional information on the approval and disapproval process):

Resolution Status

- Disapproved (describe reason for disapproval)
- Approved for current release (release is documented on the CRF)
- Approved for next release (release is documented on the CRF)
- Immediate change (Emergency change) – **See Section 3.2.2.2 below.**
- Defer for later discussion (based on time constraints, cost, budget, or triggered by a date or an event)
- Assign for further study

Note: Until the Concept Exploration phase of ERA is completed, the designated CCB Chairperson (appointed by the PD) will approve all changes to approved plans and procedures.

3.2.2.1 Assign Change Proposal

The CCB assigns responsibility for the modifications of a CI to be implement for each approved change request (normally this is done by the development contractor or organization responsible for the baseline CI impacted by the requested change). The responsible party drafts a Change Proposal (CP) for implementing the approved change and submits the proposed Change Proposal Form (CPF) to the ERB. See **Appendix E, ERA Change Proposal Form** and **Appendix F, ERA Change Proposal Form Instructions** for additional information.

3.2.2.2 Emergency Change

For an emergency (or mission critical) change request that needs an immediate fix, the Project Manager (PM) or PD must consult with the CM Specialist for quick resolution. With the approval of the CM Specialist, the PM or PD assigns the task to the technical staff. In case of the absence of the CM Specialist, the PM or PD can assign the task to the technical staff without the CM Specialist approval. The PM or PD must report to the CCB for follow-up on their resolution. The technical staff person tasked to fix the emergency problem may bypass the routine procedure and implement the solution on the production environment. However, he or she must report to the CCB and get the approval after the fact. Once the problem is under control, the technical staff must document the change and enter the information into the ERA CR database.

3.2.2.3 ERB Evaluation and Recommendation

The Engineering Review Board (ERB) evaluates change proposals for technical merit and determines what impacts implementing the proposed change may have on the system (deliverable) as it relates to cost, schedule, performance, and program resources. The ERB provides its evaluation and recommendation to the CCB. See **Section 6.2, ERB Responsibilities and Procedures** for more detail information on the evaluation process.

3.2.3 Evaluating Change Proposal

The CCB takes the ERB evaluation and recommendation into account in determining whether to implement the proposed change. Final approval must include agreement by the PD to assign resources and responsibilities to acquire or develop the new or revised CI. See **Table 3-3, Change Proposal Impact Category & Priority Descriptions**, for a list of the impact categories and priorities used in the CP.

Table 3-3, Change Proposal Impact Category & Priority Descriptions, lists the impact categories used in evaluating the CP.

Impact Category & Priority	Impact Category Description
Impact to cost or schedule (Priority Level = Critical)	<ul style="list-style-type: none"> • Significant cost increase related to development, resources, hardware, and testing. • Significant schedule change due to a delay in development, testing, and training.
Impact to interface with other system (Priority Level = High)	<ul style="list-style-type: none"> • No cost or schedule impact but changes the way the system interacts with other systems or that affects data in other systems.
Impact to technical design (Priority Level = Intermediate)	<ul style="list-style-type: none"> • Requires a major change in the underlying technical design, security, or infrastructure but will not change the cost or schedule.
No major impact (Priority Level = Low)	<ul style="list-style-type: none"> • Typically cosmetic or single program or single process.

Table 3-3: Change Proposal Impact Category & Priority Descriptions

3.2.4 Implementing Changes

Once the change proposal and its associated CR has been approved, implemented, and thoroughly tested, an independent verification and validation assessment will be conducted on the change as necessary, reference the *ERA IVVP* for additional information. For more detailed

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information about the CR & CP (approval date, developer, proposed change description, release/version, impact analysis, and technical evaluation) access the ERA Change Request database. The CM Specialist verifies the change and then updates the current baseline. See **Section 6.1, CCB Responsibilities and Procedures** for information on the CR process. Details regarding the coordination of release planning and control will be described in the developers Configuration Management (CM) plan.

3.3 Configuration Status Accounting

This is the process for recording, monitoring, and reporting information necessary to manage all CIs associated with a specific baseline throughout their life cycle. This activity consists of creating reports and of keeping a history of CM activity.

For any change made to a CI, the following information will be recorded:

- Description of the change(s)
- Impact analysis of the change(s)
- Status of the CR(s)
- Name of person making the change(s)
- Title, type, release and version, with date(s)

The CM Specialist and the CM Team are responsible for the following reporting activities:

- Provide CI status reports to the PD
- Provide metric reports to the PD
- Provide listing of all CIs contained in a baseline, release, version, and CM controlled repository to the PD
- Provide change history documentation as needed

3.3.1 CI Status Reports

CI status reports will be generated per build or release basis as part of the program review. The CI status report will contain the following information:

- Summary report of CRs by priority (Critical, High, Intermediate, and Low) and description
- Specific CRs contained in each baseline, environment, and release
- Change history review of each CI
- Listing of each CI by its title, type, release and version, with date and time last modified
- Change logs that show the history of releases and changes made to CIs

3.3.2 CM Metrics Reports

The purpose of CM metrics is to measure CM and program performance. CM metrics also can be used to review and revise existing CM processes and procedures throughout the project life

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cycle. The data derived from metrics is used to understand problems and inefficiencies in products and processes, to address the extent of those problems and inefficiencies, and to provide insight in making necessary corrections and improvements. Details of the metrics program are found in the *ERA Metrics Plan (MP)*. The following metrics report will be generated per build or release basis:

- Total number of defects found during the reporting period.
- Cumulative number of defects found during all reporting periods combined.
- Total number of defects found per severity level (i.e., Critical, High, Intermediate, and Low).
- Cumulative number of defects closed per severity level (i.e., Critical, High, Intermediate, and Low).
- Total number of defects found per origin (i.e., Documentation, Requirements, Architecture, Design, Code, Test, and Other).
- Percentage of defects by severity level = number of defects for a severity level divided by total number of defects.
- Total number of defects closed by severity level, as of the end of the reporting period.

3.3.3 CI Listings

As part of the CM library and baseline audit processes, CI listings will be generated per build or release basis. The purpose of a CI listing is to provide an accurate record of the contents of CM controlled libraries, baselines, and releases. The CI listing will contain the following information for each CI in the repository:

- Brief description/title of the CI
- CI file name
- Associated release identification for the CI
- Most recent version identification of the CI
- Date/time stamp of last modification made to the CI
- Specific CRs contained in each baseline, environment, and release for a CI
- Listing of each CI and its release version

3.3.4 CI Change History

A CI change history is a record of all changes that have been requested or made to a CI. CI change history provides the ability to manage and trace changes associated with a particular CI. A CI history report will be generated per build or release basis throughout the project life cycle. The CI history report will contain the following information:

- Brief description/title of the CI
- CI file name
- Associated release identification for the CI
- Most recent version identification of the CI
- Date/time stamp of last modification made to the CI
- Specific CRs contained in each baseline, environment, and release for a CI

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- Change logs that show the history of releases and changes made to CIs

3.4 Configuration Audits and Reviews

Configuration audits and reviews determine to what extent the actual CI reflects the required physical and functional characteristics.

The CM team will manage the audits and reviews in conjunction with Quality Management (QM). In each of the audits the CM team will verify that all of the correct CIs are included in the baseline. All CIs in each baseline are to be audited. After each audit, the CM team will produce an audit report that will be delivered to the PD and other PMO members. The report will include an action item list, with due dates to handle deficiencies. See the **Problem Reporting** section in the *QMP* for additional information. It is the responsibility of the CM Specialist to ensure that all action items (problem reports) on the list are closed. It is recommended that an independent review by QM be conducted after every established baseline.

For each planned audit or review, the development contractors CM Plan will define the following:

- CIs under audit or review
- Schedule of audit or review tasks
- Procedures for conducting the audit or review
- Documentation required to be available for review or to support the audit or review
- Procedure for recording any deficiencies and reporting corrective actions
- Approval criteria and the specific action(s) to occur upon approval

Internal audits will be held by the ERA CM Specialist prior to the establishment of any baseline. Functional, Allocated, and Release (Functional and Physical Audits) baseline configuration audits, described below, will also be held.

3.4.1 Functional Baseline Audit

The functional baseline audit will be conducted prior to acceptance of each functional baseline. The definition of a functional baseline is as follows: The initial, approved technical documentation for a configuration item. It prescribes all necessary functional characteristics, the tests required to demonstrate achievement of specified functional characteristics, the necessary interface characteristics with associated configuration items, the configuration item's key functional characteristics and its key lower level configuration items, if any, and design constraints

3.4.2 Allocated Baseline Audit

For each release of the system, when an allocated baseline is created, an allocated baseline audit will be held. The definition of an allocated baseline is as follows: The initial, approved specifications governing the development of configuration items that are part of a higher level

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configuration item. Each specification defines the functional characteristics that are allocated from those of the higher level configuration item, establishes the tests required to demonstrate achievement of its allocated functional characteristics, delineates necessary interface requirements with other associated configuration items, and establishes design constraints.

3.4.3 Release Baseline Audits

For each release of the system, including Product and Production baselines, a functional and physical configuration audit, described below, will be held.

3.4.3.1 Functional Configuration Audit (FCA)

The Functional Configuration Audit (FCA) will be held at the conclusion of system testing and before delivery of the release to the Government for acceptance testing. The purpose of the audit is to verify that system performs all the functions described in the system documentation. The audit is made on the test plans, descriptions, test reports, and procedures and is compared against the official test data. The results are checked for their completeness and accuracy. Deficiencies will be noted in the CM teams audit report.

3.4.3.2 Physical Configuration Audit (PCA)

The Physical Configuration Audit (PCA) will be held prior to any system release. The purpose of this audit is to verify that every CI in the release conforms to its specification. The CM team reviews each item to ensure that it is part of the release and that the current version is included in the release. Deficiencies will be noted in the CM teams audit report.

3.4.4 Reviews

The CM Specialist will participate in software system reviews and make sure all software products have been correctly identified and produced and that all change requests have been resolved. Reference the *ERA Technical Review Process (TEP)* document for additional information on the review process.

3.5 Interface Control

[Placeholder for describing how to coordinate changes to CIs with changes to items outside the scope of the plan. Might include hardware, system software, or support software changes that have an impact on ERA. If there is a change to items outside the ERA system (e.g., OFAS, CMRS, and NARANET), then it will be controlled by the methods described in an Interface Requirements Document (IRD).]

3.6 Subcontractor/Vendor Control

All CIs developed by contractors will be delivered in accordance with this plan. The development contractor is responsible for their own internal CM. No other subcontractor or vendor control is expected at this time, as it is anticipated that a single contractor will act as integrator for the system. However, in the event that a subcontractor is employed in the future, the development contractor is responsible for ensuring that the subcontractor deliverables are

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delivered in accordance with the ERA CMP, and for consolidating CIs developed by contractor or subcontractor for the Government. The Government CM Specialist has the right to inspect and audit the CMP and CM activities of the contractor at any time.

As stated in the *ERA Request for Proposal (RFP)*,

“NARA desires a collaborative working relationship with the development contractor that integrates with the processes, procedures and tools used by the ERA Program Management Office (PMO) in the areas of requirements management, quality management, configuration management and test and evaluation.”

3.6.1 Subcontractor Products

Not Applicable to this plan. The ERA PMO will receive all product deliverables via the PRIME’s CM process/system.

3.6.2 Vendor Products

Not Applicable to this plan. The ERA PMO will receive all product deliverables via the PRIME’s CM process/system.

4.0 CM Schedules

CM schedule information establishes the sequence of tasks and coordination for the identified CM activities and for all events affecting the plan’s implementation. The *ERA PMP* contains all of the activities and tasks required to manage the ERA program and its related processes.

4.1 Schedule for Regular CM Activities

Schedule for regular CM activities will follow the start of the Concept Development and Initial Production phase. Reference the **Support Life Cycle Processes** section of the *ERA Life Cycle (ELC)* document for information on supporting processes. The following is a list of regular CM activities:

- CCB Meetings (depends on build/release schedule)
- ERB Meetings (depends on approved change request)
- Decisions on change proposals at the next CCB meeting (after completion of the impact analysis summary and technical evaluation)

Note: Special circumstances may justify departures from normal schedules for regular CM activities.

4.2 Management Review of CM Activities

The QM Specialist on behalf of the PD will conduct regular reviews of CM activities. The sequence and dependencies among CM activities (e.g., creation of configuration baselines,

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change control procedures, and dates for configuration audits) to program milestones or events will be scheduled in the *ERA Work Breakdown Structure (WBS) & Schedule*.

4.3 Records Retention Schedule

All CM records will be maintained in accordance with General Records Schedules (GRS) 24, when authorized, or an applicable NARA-specific schedule for records not covered by the GRS. (e.g., GRS 24, Section 3, IT Asset and Configuration Management Files, and Section 4, System Backup and Tape Library Records)

5.0 CM Resources

An integrated set of CM tools (resources) will be needed for the development of ERA. Tools will be selected using a process of evaluation based on the NARA Systems Development Guidelines. The CM Team establishes process training areas that are needed to carry out all tasks included in the CMP, for a list of those areas refer to **Appendix B, ERA PMO Training Needs Assessment Criteria Summary, Table II, Process Training (Configuration Management)**, in the *ERA Training Needs Assessment (TRA)* document. Training needs are determined by matching skill requirements for a specific task against the skills of the assigned personnel. The current CM Specialist assigned to the ERA CM Team are Virginia White, ERA PMO team member and Randy Skovrinski, ERA Program Office Support Team (POST) team member.

PVCS Version Manager is being used as the library system for document control. The Change Request Tracking System Access database is being used to track change requests and change proposals, and the Action Item Tracking System Access database is being used to track action items (problem reports).

6.0 ERA Change Control Process

This section describes the two ERA decision-making board's responsibilities and procedures in the change control process.

- Configuration Control Board (CCB) – is the decision-making body that establishes baselines, approves defect resolutions, authorizes Change Requests (CRs), and updates to the baseline.
- Engineering Review Board (ERB) – is the decision-making body that conducts technical evaluations on all Problem Reports (Action Items), Requirements, Change Proposals (CPs) suggesting additions, modifications, or revisions, and makes appropriate recommendations.

A requested change will pass through several possible processes during its life cycle. See **Appendix B, ERA Change Request Process Flowchart**, for a description of each of those processes.

Note: Reference the ERA Life Cycle (ELC) document for the CCBs and ERBs period of effectivity.

6.1 Configuration Control Board Responsibilities and Procedures

The ERA CCB is an established forum for decision-makers to candidly discuss the scope and development direction of the ERA product. The organization is formal in nature, scheduled meetings and the adherences to documented procedures are critical to ensuring its effectiveness.

The CCB is the central element in the change control process. It is the decision-making body that establishes baselines, approves defect resolutions, and authorizes updates to baselines. The CCB will have authority for approving all CIs, and all changes to baselines for the system. The CCB reviews all change request forms (See **Appendix C, ERA Change Request Form** for an example) and makes the final decision concerning the change proposal form (See **Appendix E, ERA Change Proposal Form** for an example). The CCB has primary authority for change control under the *Configuration Management Plan (CMP)*.

6.1.1 ERA Program Configuration Control Board

The ERA CCB is responsible for all changes made to Functional, Allocated, Product, and Production baselines. The ERA CCB is composed of representatives from the ERA PMO. The Program Director (PD) will determine who these representatives are, and their responsibility and role. A chairperson for the concept development phase will be identified for the ERA CCB. The chairperson will manage the ERA CCB meeting in such a manner that discussion is encouraged from all attendees. If any issue cannot be resolved by the CCB it is referred to the PD, who will make a final decision.

6.1.2 Configuration Control Board Mission

The mission of the ERA CCB is to control the functionality and allocated resources with respect to the product baselines of ERA. To fulfill this mission, the ERA CCB assumes the responsibilities defined in the following sections.

6.1.3 Configuration Control Board Organizational Structure

The ERA CCB has a variable number of members (PMO) based on the Problem Reports (Reference the **Problem Reporting and Corrective Action** section in the *Quality Management Plan (QMP)* for detailed information on problem reporting), CRs, and CPs being evaluated. The ERA CCB members are:

- **CCB Chairperson:** A member of the ERA PMO and designated by the PD. Facilitates the meeting and has sole responsibility for assigning Problem Reports (Action Items) and CPs based on meeting discussion and priorities.
- **Configuration Management (CM) Representative:** Represents the ERA CM team and any other groups concerned with the quality and acceptability of the ERA program products.
- **Support Representatives:** The Users/Testers Organization. Represents all product support tasks organizations (documentation, development, training, testing, etc.) and any other groups concerned with the adequacy of product support of the ERA program products.

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- **CCB Scribe:** The CCB chairperson designates this person. The scribe receives all Problem Reports (Action Items), CRs, and CPs prior to the meeting; builds the meeting agenda; notifies members and invited guests of the meeting; forwards Problem Reports (Action Items), CRs, and CPs to be evaluated 48 hours in advance of the meeting; and records minutes and action items.

Note: Designation of the Configuration Control Board (CCB) Chairman letter dated October 21, 2002, and signed by Kenneth Thibodeau, ERA Program Manager, designates Virginia White as the CCB Chairperson for ERA.

6.1.4 Configuration Control Board Responsibilities and Objectives

The main actions of the ERA CCB are as follows:

- Reviews and approves for current release proposed modifications to the product baselines,
- Reviews and approves for next release proposed modifications to the product baselines,
- Discuss issues related to making changes and the implications of proposed changes on other efforts,
- Disapproves or approves proposed changes to established baselines,
- Assigns responsibilities for development of CI Change Proposal,
- Reviews ERB's technical evaluation and impact analysis on the change proposal in determining whether to implement a proposed change, and
- Assigns resources to acquire or develop the new or revised CI.

6.1.5 Configuration Control Board Meeting Process

The ERA CCB should meet on a regular basis or as necessary to accomplish its mission and to meet objectives and complete tasks. A routine ERA CCB meeting consists of a review of open action items (problem reports), change requests, and change proposals.

Questions and discussions will ensure that all members will have the opportunity to provide input to discussions. Decisions are made on a majority vote basis, but in the case of open issues, the PD has final authority. Minutes of the meeting are required. The decisions made are documented in the ERA Action Item database.

6.1.6 Configuration Control Board Decision Process

Open CRs or CPs have a potential impact on the ERA product, so each issue must be considered carefully. With respect to the impact it may have to the end user, the ERA CCB should consider whether to defer or address the issue in the next release. With respect to the possible ramifications of approving the request, the ERA CCB should consider the effect it has on other system functions (i.e., impact analysis). Examples of impacts to consider for approving CRs and CPs include the effects it would have on:

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- Requirements,
- System design,
- Regression and other testing,
- External Interface(s),
- Documentation, and
- Training.

The ERA CCB can make a variety of decisions based on the CR (see **Sections 6.1.6.1 – 6.1.6.4**), ERB Technical Evaluation, or the ERB Impact Analysis Summary. These decisions are described below. The decisions that are made are reflected in a change of status, assignment, and release number. Refer to **Appendix D, ERA Change Request Form Instructions**, Number 12 for a list of Statuses for CRs and **Appendix F, ERA Change Proposal Form Instructions**, Number 14 for a list of Statuses for CPs.

6.1.6.1 Decision: Disapproved

If the ERA CCB decides to disapprove the request or proposal in the normal course of reviewing change requests and/or change proposals, the ERA CCB will record the reason on the Change Request Form (CRF) or Change Proposal Form (CPF). The CCB will notify the originator of the request or the developer working on the proposal of the disapproval.

6.1.6.2 Decision: Approved

In cases where the change request is warranted, the ERA CCB has three courses of action:

- **Approved for current release** – this decision is based on ease of use, resources available, and the product strategy vision.
- **Approved for next release** – this decision is based on the priority of the change and its affect on the current release.
- **Immediate change** – this decision is based on the impact of changing cost, performance, and schedule of the product or an emergency change.

Note: For information on the emergency change process, refer to the **Section 3.2.2.2 Emergency Change**.

In cases where the change proposal is warranted, the ERA CCB has two courses of action:

- **Approved** – this decision is based on ease of use, resources available, and the product strategy vision.
- **Approved for next release** – this decision is based on the priority of the change and its affect on the current release.

6.1.6.3 Decision: Defer for Later Discussion

This decision is based on time constraints, cost, budget, or triggered by a date or an event.

6.1.6.4 Decision: Assign for Further Study

This decision is based on the need for additional information.

6.2 Engineering Review Board Responsibilities and Procedures

Technical evaluations on all Problem Reports (Action Items) and/or Changes to Requirements, and Change Proposals (CPs) drive the Engineering Review Board (ERB). These requests can be initiated by the ERA CCB, or any contractor, user, or organization that supports the ERA program project.

6.2.1 Engineering Review Board Mission

The mission of the ERB is to conduct a technical evaluation on all Problem Reports (Action Items), Requirements, and CPs suggesting additions, modifications, or revisions to ERA program baselines and/or supporting products before modifications to the product is authorized and initiated.

6.2.2 Engineering Review Board Organizational Structure

The ERB is a PMO Engineering Board. It has five permanent members and a variable number of invited members based on the problem reports and/or CPs being evaluated. The five permanent members are:

- **ERB Chairperson:** Designated by the PD. The senior technical leader. Facilitates the meeting and has sole responsibility for assigning CP technical evaluations to a technical representative based on meeting discussion and priorities.
- **Technical Representative:** The System Engineering Officer. Represents the system and software community including NARA and contractors. Invites specific individuals based on problem reports and CPs to be discussed.
- **Quality Management (QM) Representative:** Represents the ERA QM team and any other groups concerned with the quality and acceptability of the ERA program products. Invites specific individuals based on problem reports and CPs to be discussed.
- **Support Representative:** The Users/Testers Organization. Represents all product support tasks organizations (documentation, training, testing, etc.) and any other groups concerned with the adequacy of product support of the ERA program products. Invites specific individuals based on problem reports and CPs to be discussed.
- **ERB Scribe:** The ERB chairperson designates this person. Receives all problem reports and/or CPs prior to the meeting, builds the meeting agenda, notifies permanent members and invited guests of the meeting, forwards problem reports and/or CPs to be evaluated 48 hours in advance of the meeting, and records minutes and action items.

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Note: Designation of the Engineering Review Board (ERB) Chairman letter dated July 24, 2002, and signed by Kenneth Thibodeau, ERA Program Manager, designates Tom McAndrew as the ERB Chairperson for ERA.

Any permanent member may delegate their seat, however all five individuals must be represented for a meeting to be held.

6.2.3 Engineering Review Board Responsibilities and Objectives

The main actions of the ERA ERB are as follows:

- Review and approve changes to all levels of requirements;
- Assist in the technical evaluation review of change proposals;
- Conduct an impact analysis of the change proposal;
- Evaluate the cost, performance, and schedule impact of the change proposal;
- Provides evaluation and recommendation to the CCB.

6.2.4 Engineering Review Board Meeting Process

The ERB should meet on a regular basis or as necessary to accomplish its mission and to meet objectives, complete tasks, and avoid delaying progress or impacting schedule or budget. The ERB Scribe will develop a meeting agenda and forward it to all permanent members at least 48 hours in advance of the meeting. Those problem reports and/or change proposals where external organizations have committed resources will be addressed first, all others with complete proposal forms second and those where the forms are incomplete last.

See **Appendix E** for an example of the CPF. The CPF contains the following basic information.

- Project
- Date of Request
- Control Number
- Date of Proposal
- Developers Name Assigned by the CCB to develop the Change Proposal
- Release/Version Number
- Type of Change
- Priority
- Requester
- Proposal Description

The ERB evaluates the proposal for technical merit, determines the impact of the proposed CI or change to the CI may have on the system, and updates the Impact Analysis Summary and the Technical Evaluation sections on the CPF. See **Table 3-3, Change Proposal Impact Category & Priority Descriptions**, for a list of the impact categories and priorities used in the CP.

6.2.5 Engineering Review Board Decision Process

After the agenda is completed, the ERB Chairperson and permanent members will schedule a session with the CCB. During this session, the CCB will take into account the ERB Technical Evaluation and Impact Analysis Summary in determining whether to implement the proposed change. Accordingly, the impacted organization(s) will have to re-plan their efforts based on revised requirements and resources.

7.0 Plan Maintenance

The ERA CM Specialist is responsible for this plan. As a part of process improvement (e.g., IV&V assessments, lessons learned, QM assessments), the CMP and the overall configuration management approach will continue to evolve. The plan will be updated as needed to maintain current and effective CM activities. The plan will be placed under CM control following its initial approval by the ERA PMO. Updates to the CMP will be controlled by the CCB.

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APPENDIX A: ERA Configuration Items List (Sample List)

CI Type	Status	CI subtype	Current Version	Meaning
DC	DEL		1.0	AOA IPT Charter Final
	DEL	AOA	1.1	Analysis of Alternative
	DEL	AS	2.0	Acquisition Strategy
	DEL	AUG	1.1	Action Item Tracking Database Users Guide
	DEL	BCA	1.0	Business Case Analysis Final
	DEL		1.0	BCAF IPT Charter Final
	DEL	CHM	Non-ERA	Change Management Plan
	DEL		1.0	Conops IPT Charter Final
	DEL	CPO	Non-ERA	Communications Operational Plan
	DEL	CP	1.0	Communications Plan
	DEL	CMG	1.0	Configuration Management Guide
	DEL	CMP	1.4	Configuration Management Plan
	DEL	CPP	1.0	Configuration Management PVCS Procedures
	DEL	COP	1.1	Concepts of Operation
	DEL	CUG	1.2	Change Request Database Users Guide
	DEL	DAP	1.2	Document Development and Approval Process
	DEL	ELC	1.0	ERA Life Cycle
	DEL	ERP	1.1	ERA Research Plan
	DEL	FL	1.0	Feature List
	DEL	FRA	1.0	Facilities Requirements Assessment
	DEL	MRR	1.0	Market Research Report
	DEL	MP	1.1	Metrics Plan
	DEL	MRP	1.0	Metrics Report Process
	DEL	MR	MMYY	Metrics Reports (Monthly)
	DEL	MNS	1.2	Mission Needs Statement
	DEL	MSR	MMYY	Monthly Status Report
	DEL	PIA	1.0	Privacy Impact Assessment
	DEL	PMP	1.2	Program Management Plan
	DEL	PRP	1.1	Peer Review Process
	DEL	PUG	1.1	Peer Review Action Item Database Users Guide
	DEL	QMG	1.0	Quality Management Guide
	DEL	QMP	1.2	Quality Management Plan
	DEL	QPP	1.0	QM Processes & Procedures
	DEL	RAR	1.0	Request for Information (RFI) 1

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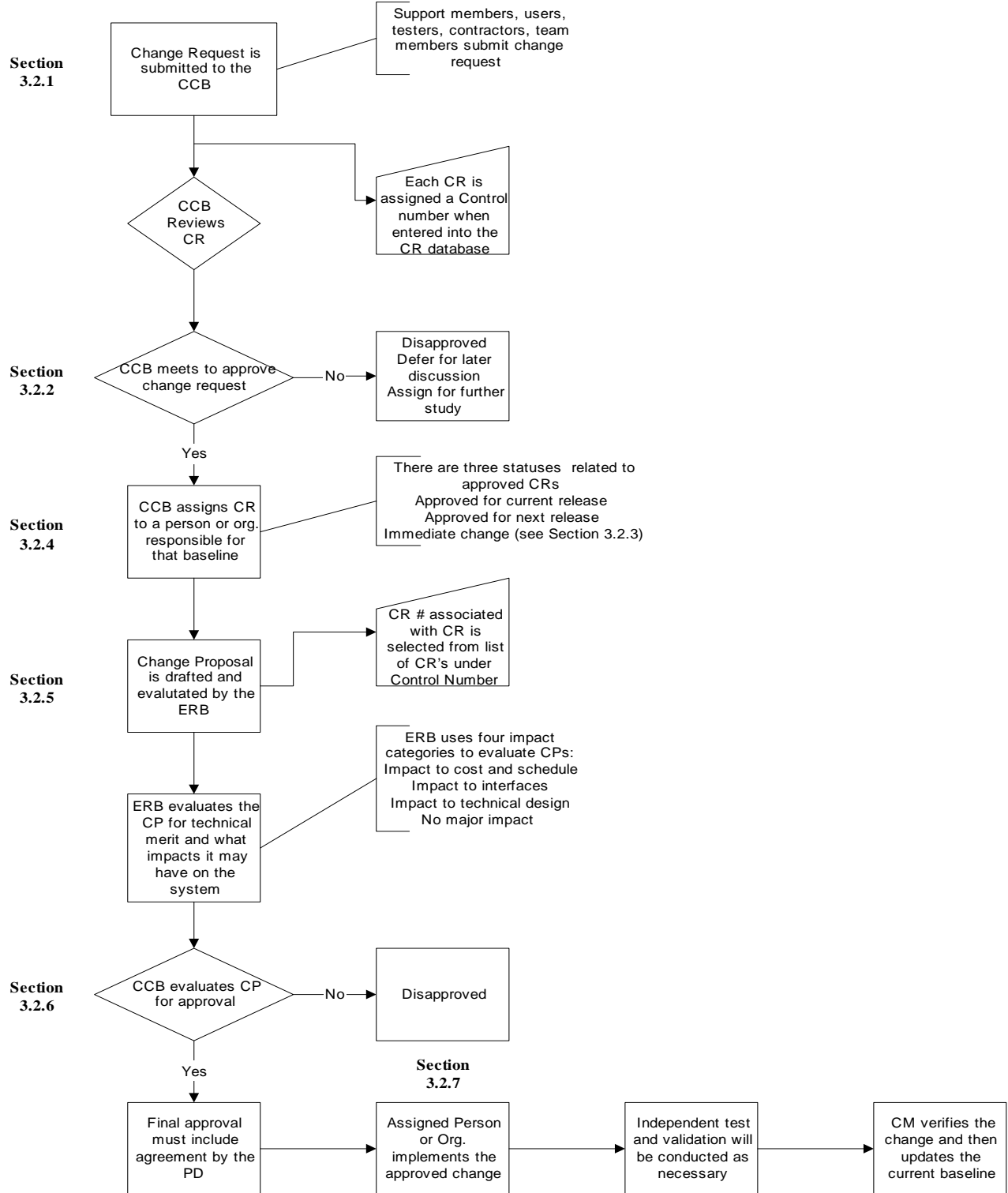
CI Type	Status	CI subtype	Current Version	Meaning
	DEL		1.0	Requirements IPT Charter Lvl 0
	DEL		1.0	Requirements IPT Charter Lvl 1
	DEL	RD	2.1	Requirements Document
	DEL	RQG	1.0	Requirement Management Guide
	DEL	RQM	1.1	Requirement Management Plan
	DEL	RKG	1.0	Risk Management Guide
	DEL	RKM	1.0	Risk Management Plan
	DEL	RR	1.0	Roles & Responsibilities
	DEL	SEA	Shelved	Secure Enterprise Architecture
	DEL	SLP	1.0	Source Selection Plan
	DEL	SRUC	1.0	Summary Report – User Conference
	DEL	SSP	1.0	System Security Plan
	DEL	TA	1.0	Tool Assessment
	DEL	TEP	1.0	Technical Review Process
	DEL		1.2	Task 4.1 Initial Assessment
	DEL		1.0	TDL2 Execution Plan for Task 4.2
	DEL		1.0	TDL3 Execution Plan for Task 4.3
	DEL		1.0	TDL4 Execution Plan for Task 4.4
	DEL		1.0	Tool Assessment IPT Charter Final
	DEL	TMG	1.1	Testing Management Guide
	DEL	TOMP	2.0	Task Order Management Plan
	DEL	TRA	1.1	Training Needs Assessment
	DEL	TRP	1.0	PMO Training Plan
	DEL	TSP	1.1	Testing Management Plan
	DEL	UC	xxx.xxxx	Use Cases
	DEL	VS	1.0	Vision Statement
	DEL	VRP	1.1	Verification Review Process
	DEL	300	1.2	OMB300 (2002)
HW		INS		Hardware
SW		DBS		Software

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APPENDIX B: ERA Change Request Process Flowchart


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APPENDIX C: ERA Change Request Form



ERA CHANGE REQUEST

Help

ERA CHANGE REQUESTER INFORMATION

Project: ERA-PMO

Date of Request: 6/11/02

Location: College Park, MD

Control No.: CR-ERA-PMO-DCMT-3

Requester:

Release:

Version:

CHANGE SUMMARY

Type of Change: Priority:

CHANGE DESCRIPTION

Affected Item:

Change Description:

Add Item Description

Changes Identified:

FOR APPROVING OFFICER ONLY

Date: 6/11/02

Developer/Organization Assigned To:

Status:

Resolution Date: 6/11/02

Approver: Jansen, Dan

FINAL

APPENDIX D: ERA Change Request Form Instructions

CHANGE REQUESTER INFORMATION		The Requester must:
1.	Project	Select Project Name.
2.	Date of Request	Enter the request date. The form automatically enters the current date.
3.	Location	The form automatically enters the location.
4.	Control Number	The control number associated with this change request is created automatically after you have selected the Type of Change. (e.g., CR-ERA-PMO-DCMT-#)
5.	Requester Name	Select the requester/contact name associated with this change request.
6.	Release/Version	Enter the Release # for software and Version numbers for Documents Only, associated with the change request.
CHANGE SUMMARY		The Requester must:
7.	Type of change	Select the type of change. Baseline (BSLN), Document (DCMT), Hardware (HRDW), Software (SFTW), and Other (OTHR).
8.	Priority	Select the level of priority associated with this change request. Refer to Table 3.2, Change Proposal Impact Category & Priority Description on page 15 of the CMP.
CHANGE DESCRIPTION		The Requester must:
9.	Hardware/Software/Document Affected	Indicate the specific screen, report, component, document reference, related change request etc. associated with the problem.
10.	Change Description	Enter the change description; include inputs, expected results, anomalies, etc. associated with this change request.
FOR APPROVING OFFICER ONLY		The CCB Manager or CM Manager must:
11.	Date Approved/Disapproved	Enter the Approval/Disapproval date. The form automatically enters the current date.
12.	Status	Select the appropriate status for this change. <ul style="list-style-type: none"> • Disapproved (See # 17 below) • Approved for Current Release • Approved for Next Release • Immediate Change • Defer for later discussion (budget, cost, time constraints or triggered by a date or an event) • Assign for further study
13.	Approvers Name	The name of the Approving Officer associated with this change request is populated in the Approvers Name field.
TASK ASSIGNED by CCB		
14.	Developer Assigned To:	Select the name of the developer assigned this change request.
15.	Or - Organization Assigned To:	Select the name of the organization assigned this change request.
16.	Resolution Date:	Enter the date that this change request should be resolved by.
17.	Reason for Disapproval	Use this area to explain why this change request was disapproved.


FINAL

APPENDIX E: ERA Change Proposal Form

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Change Proposal



ERA CHANGE PROPOSAL

Help

ERA PROPOSED CHANGE INFORMATION

Project: Date of Request: Location: Control No.

Date of Proposal: Release:

Developer: Version:

Type of Change: Priority: Requester:

PROPOSED CHANGE DESCRIPTION by Assigned Developer

Proposal Description:

Impact Analysis Summary by ERB Technical Representative

No Major Impact Impact to Technical Design Impact to interface with other systems

Impact to Cost (\$) Impact to Schedule (Wks/Months)

TECHNICAL EVALUATION of PROPOSAL by ERB Technical Representative

Impact Description:

FOR APPROVING OFFICER

Date: Status:

Approver:

FINAL

APPENDIX F: ERA Change Proposal Form Instructions

PROPOSED REPORTER INFORMATION		The Developer must:
1.	Project	Project Name is automatically copied over from the Change Request.
2.	Date of Request	The date of request is automatically copied over from the Change Request.
3.	Location	The location is automatically copied over from the Change Request.
4.	Control Number	The CR associated with this Change Proposal is selected from the list of Change Requests under Control Number. (e.g., CR-ERA-PMO-DCMT-#)
5.	Date of Proposal	The proposal date is automatically enter with current date.
6.	Developers Name	The developers name is automatically copied over from the Change Request.
7.	Release/Version	The Release and Version numbers are automatically copied over from the Change Request.
8.	Type of Change	The type of change is automatically copied over from the Change Request.
9.	Priority	The priority is automatically copied over from the Change Request.
10.	Requester	The requester's name is automatically copied over from the Change Request.
PROPOSED CHANGE DESCRIPTION		The Developer must:
11.	Proposal Description	Describe in detail your proposed changes needed to complete this change request.
IMPACT ANALYSIS SUMMARY		The Technical Representative must:
12.	Categories the proposed change would affect	Select the appropriate category affected by proposed change. (Impact to Technical Design, Impact to interface with other systems, Impact to Cost, and Impact to schedule)
TECHNICAL EVALUATION of PROPOSAL		The Technical Representative must:
13.	Describe the technical/impact evaluation of the proposal.	Indicate the impacts to system interfaces, costs, schedules, design, business, added value, or risks, etc. associated with this change proposal.
RESOLUTION/ESCALATION		The Technical Representative must:
14.	Describe recommended action(s) or escalation provisions	<ol style="list-style-type: none"> 1. Indicate possible actions (list changes) required implementing the recommended solution. <ul style="list-style-type: none"> • Processes • Functions • Entities • Tables/View • Modules • Documentation 2. Indicate if the solution impacts other areas or requires additional approvals. 3. Establish a turnaround time.
FOR APPROVING OFFICER ONLY		The CCB Manager or CM Manager must:
15.	Approval Date	The date this change proposal was approved/disapproved is automatically entered. (Current Date)
16.	Status	Select the appropriate status for this change proposal <ul style="list-style-type: none"> • Disapproved (See # 18 below) • Approved for Current Release • Approved for Next Release
17.	Approver Name	The name of the Approving Officer associated with this change proposal is populated in the Approver Name field.
18.	Reason for Disapproval	Use this area to explain why this change proposal was disapproved.