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DOE ENTERPRISE ARCHITECTURE (DOE EA) PROGRAM

CONFIGURATION MANAGEMENT PLAN

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Prepared by: Brenda Coblentz, DOE

Approval: _____
                        Denise A. Hill, IM-21
                        Chief Architect
                        Office of the Associate CIO for IT Reform
                        Office of the Chief Information Officer

Concurrence: _____
                        Architecture Review Board

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U. S. DEPARTMENT OF ENERGY
Office of the Chief Information Officer (OCIO)
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Table of Contents

Appendices

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1. Introduction

Configuration management (CM) of the DOE Enterprise Architecture (DOE EA) Program entails the usage of the Office of the Chief Information Officer (OCIO) Portal, the DOE Enterprise Architecture Repository (DEAR), and any other method for developing, maintaining, storing, tracking, etc. artifacts of the DOE EA Program.

The OCIO Portal will be used to retain DOE EA document artifacts, including DEAR documents. The Portal contains two DOE EA communities as follows:

> ➢ The CIO EA web pages which serve as an archive for historical DOE EA documents and DEAR Official Use Only (OUO) documents. Only the existences of the historical plans are tracked. DEAR documents are tracked under the DEAR CM Plan. This community is only accessible by OCIO DOE EA staff.

> ➢ The DOE EA Community web pages which contain the most current DOE EA documents being used for defining and managing the DOE EA. Some of the documents in this community are background or office-specific information and will only be tracked in regards to their existence. A selected set of documents in this community will be identified and tracked for changes. This community is only accessible by DOE Enterprise Architecture Working Group (EAWG) members.

DEAR is considered an artifact of the DOE EA Program. However, a separate CM plan will be used to manage DEAR and its associated documents because of its OUO status. Only those within the DEAR team and OCIO DOE EA Program staff have a need-to-know and access to these documents. The DEAR documents will also be included within the application, in a secure location, to ensure easy accessibility for the DEAR team and also as a backup for the master copies retained on the OCIO Portal.

In addition, the OCIO will maintain a library of master file copies of specific DOE EA Program documents with the prime contractor to serve as a backup repository for those on the Portal in the event they are removed or the Portal is destroyed and not recoverable.

1.1 Purpose of the Configuration Management (CM) Plan

The DOE EA Program CM Plan identifies the approach or process for controlling the development and release of DOE EA Program artifacts. The DOE EA Program CM process involves identifying the DOE EA Program artifacts to be included (e.g., selected work products, deliverables and their descriptions) at given point in time, systematically controlling changes to the artifacts, and maintaining the integrity and traceability of the artifacts throughout the DOE EA Program life span.

1.2 Business Rules for Implementing the CM Plan

The business rules for implementing the DOE EA Program CM Plan are contained within this section. Note: DEAR has a separate Change Control Board (CCB) and the business rules for implementing the DEAR CM Plan are contained therein.

➢ The primary repository for the DOE EA Program artifacts is the OCIO Portal.

➢ The artifacts and associated files will be stored in the DOE EA Community to provide a common source for access by the DOE EAWG and DOE architecture staffs. This will simplify artifact development and finalization (or update), and ensure that any artifact is accessible to all users at the same time.

➢ A CCB is established to manage all changes to the products and baselines of the DOE EA Program.

➢ Some DOE EA Program CCB approval responsibilities will be assigned to the Architecture Review Board (ARB).

➢ The OCIO DOE EA Program staff will review all posted Configuration Change Proposals (CCP) to assess the impact of the proposed changes and determine the appropriate reviewers as part of their recommendation(s) to the CCB.

➢ All changes will be tracked and reported. Periodic audits will be performed on the CM process to ensure that changes are effectively managed.

➢ In addition to having an index of the changes made from version to version, separate copies of the artifacts before and after will be saved to permit comparisons at a detail level. This is useful in the event that problems arise following a new release because:

➢ a comparison can be made before and after a particular version to isolate the source of the problem

➢ it will be possible to revert to an earlier version if necessary

➢ For each artifact, a version control number will be assigned using established procedures for managing the evolution of the artifacts. Within each major release of any artifact, there may be one or several incremental releases of the artifact as the DOE EA Program progresses and higher maturity levels are obtained.

➢ Two significant goals of this plan are to:

    ➢ have clearly-defined updates rather than an ongoing stream of minor changes

    ➢ provide updates to an artifact release that is in development, testing, or production while the next version is being developed

1.3 Portal Procedures and Official Use Only (OUO) Policy

User guides for navigating around the OCIO Portal are available under "Portal Help" in the eDOE Portal User Guides Project and under "Directory" in the Portal User Resources folder. The Portal is a secured site at https://edoe.doe.gov and potential users must get access via the Portal Administrator.

In order to get access to the Portal, go to https://mis.doe.gov and click on the button to request access. Complete the information requested. For SPONSOR, enter the name of the Chief Architect and then submit the request. The request is forwarded to the Chief Architect for approval. Once approved, setup instructions are sent to activate the DOE USERID. Next, the potential user should send a note to CSC.Helpdesk@hq.doe.gov requesting access to the Portal.

Although the Portal has restricted access, some of the documents stored on it are OUO and, as such, must be protected whenever there is a possibility that others who do not have a need-to-know could have access. Therefore, care must be taken to ensure that when accessing the website or downloading or printing OUO documents, it will be protected in accordance with the OUO instructions, as defined in DOE O 471.3, *Identifying and Protecting Official Use Only Information,* and the guidelines in DOE M 471.3-1, *Manual for Identifying and Protecting Official Use Only Information.* Additional information is available in DOE G 471.3-1, *Guide to Identifying Official Use Only Information.*

1.4 Special Organizational Features

1.4.1 General Roles and Responsibilities

The individuals involved in the DOE EA Program are as follows:

Role	Responsibility
DOE EA Chief Architect	Federal manager responsible for the overall success of the DOE EA Program; provides leadership and approval for repository content and direction.
Architecture Review Board (ARB)	Governance board constituted to approve major changes to the DOE EA based on impact on the DOE EA Program.
EA Working Group (EAWG)	Federal and contractor Points of Contact (POC) supporting the DOE EA Program, and responsible for representing their Program/Staff Offices.

Role	Responsibility
Federal EA Points of Contact	Federal staff responsible for participating in the EAWG, and who hold enterprise, DOE Mission and General Management Lines of Business, and Program/Staff Office architecture responsibilities.
Contractor EA Points of Contact	Contractor staff responsible for interfacing with the Federal EA Points of Contact, and the EAWG as directed.
OCIO DOE EA Program Team	Federal and contractor staffs who provide direct support to the OCIO's effort in the DOE EA Program.
DEAR Team	Contractor staff supporting DEAR under the purview of the OCIO.
DEAR User	A user who has been given access to DEAR to validate data and run reports.
OCIO Portal User	A user who has been given access to the OCIO Portal to validate DOE EA Program artifacts.

1.4.2 DOE Enterprise Architecture Working Group (EAWG)

A listing of the Program/Staff Offices that are involved with the DOE EA Program as members of the EAWG is maintained by the OCIO. Updates are published on the Portal.

1.4.3 Architecture Review Board (ARB)

A listing of the Program/Staff Offices that are involved with the DOE EA Program as members of the ARB is maintained by the OCIO. The composition of the ARB is governed by its charter. Updates are published on the Portal.

1.5 Document Organization

The DOE EA Program CM Plan provides an introduction which defines the scope of the DOE EA Program CM Plan, an overview of the DOE EA Program CM process, and a discussion of each of the four mechanics of the DOE EA Program CM process:

Identification—how the DOE EA Program configuration items are identified

Control—how change control will be accomplished

Auditing—how the DOE EA Program CM will be audited

Status Accounting—how the status of the configuration effort will be reported

2. DOE EA Program CM Process Overview

The DOE EA Program CM process is used to ensure that artifacts of the DOE EA Program (including artifacts received from Program/Staff Offices at DOE) are logged, go through full quality assurance processes, and are stored in the appropriate version control library to enable a retrieval of any part or all of the artifacts by the DOE EA community. Documents that are generated by Program/Staff Offices will not be under change management, as specified in this plan, but will be logged and given a configuration number by the DOE EA Program Librarian if they are placed on the Portal.

The DOE EA Program CM process currently consists of managing two communities on the OCIO Portal: the CIO EA and the DOE EA Community. DEAR document control and data control are managed by the DEAR CM Plan, but references to that plan may be included in this plan.

The degree of formality, depth of control, and portion of CM for the DOE EA Program artifacts is determined by the baselining, file change management of customized files, documentation, and reporting. The CM process will apply to all identified configuration item components of the DOE EA Program.

2.1 Participants

The table, below, contains the participants in the DOE EA CM Program process. Some of the roles and responsibilities may be split or shared between people.

CM Role	Responsibility
Chief Architect	➢ Advises EAWG POCs, ARB POCs, CTO, and the OCIO EA Team on the direction of the DOE EA Program. ➢ Signs off on major artifacts. ➢ Concurs/non-concurs on the successful completion of each artifact. ➢ Concurs/non-concurs upon any substantive artifact development issue. ➢ Consults with the EAWG POCs, ARB POCs, CTO, and the OCIO EA Team on approving and prioritizing artifact changes. ➢ Initiates Change Requests when reviewing artifacts by identifying new or previously unidentified improvements. ➢ Makes OCIO EA Team assignments for preliminary investigation of change request (analysis, feasibility and impact study, resource estimates); making the change; testing the change. ➢ Reviews analysis, feasibility and impact study, and resource estimates. ➢ Monitors schedules and status items to ensure timely delivery. ➢ Reviews artifact release plans with the Configuration Manager. ➢ Coordinates artifact releases with the Configuration Manager. ➢ Responsible for the release of documentation. ➢ Interfaces with EAWG to ensure that CM plan procedures are followed and the developed artifact is within the users' expectations. ➢ Provides budgetary resources for CM.

CM Role	Responsibility
Chief Technology Officer (CTO)	➤ Develops, establishes, and maintains the EITA. ➤ Advises EAWG POCs, ARB POCs, Chief Architect, and the OCIO EA Team on artifact changes the direction of the DOE EA Program. ➤ Approves/disapproves artifacts proposed for Type 2 or 3 changes. ➤ Signs off on major artifacts. ➤ Concurs/non-concurs on the successful completion of each artifact. ➤ Concurs/non-concurs upon any substantive artifact development issue. ➤ Initiates Change Requests when reviewing artifacts by perceiving new or previously unidentified improvements. ➤ Advises on approval and prioritization of artifact changes with Chief Architect.
EAWG/ARB Points-of-Contact	➤ Approves/disapproves artifacts proposed for Type 2 or 3 changes. ➤ Signs off on major artifacts. ➤ Concurs/non-concurs on the successful completion of each artifact. ➤ Concurs/non-concurs upon any substantive artifact development issue. ➤ Initiates Change Requests when reviewing artifacts by perceiving new or previously unidentified improvements. ➤ Advises on approval and prioritization of artifact changes with Chief Architect.
OCIO EA Team	➤ Identifies new or previously unidentified configuration items. ➤ Initiates Change Requests by encountering artifact problems or recognizing improvements. ➤ Performs preliminary investigation of change request (analysis, feasibility and impact study, resource estimates). ➤ Performs the requested change. ➤ Reviews the requested change.
DOE EA Program Configuration Control Board (CCB)	➤ Consists of the Chief Architect, Chief Technology Officer, DEAR Project Manager, DEAR Configuration Manager, DOE EA Program Configuration Manager, DOE EA Program Librarian, and, as required, Technical Writers. ➤ Determines the type of change and, therefore, the approval/disapproval process. ➤ Reviews changes for impact to the baselined artifacts.
DOE EA Program Configuration Manager	➤ Coordinates with Chief Architect, CTO, ARB, EAWG, and OCIO EA Team in identifying configuration items. ➤ Determines the areas affected by each configuration item. ➤ Classifies each configuration item and assigns it to a Portal location in coordination with the DOE EA Program Librarian. ➤ Maintains an inventory of all configuration items. ➤ Responsible for collecting data and monitoring the DOE EA Program CM change documents. ➤ Responsible for providing status reports on the CM effort. ➤ Maintains the DOE EA Program CM Plan, reviews and updates. ➤ Ascertains configuration items, and ensures traceability throughout the item life cycle. ➤ Ensures that the CM process is executed according to the Plan. ➤ Interfaces with the Chief Architect and the EA participants. ➤ Plans artifact release with the Chief Architect. ➤ Coordinates artifact releases with the DOE EA Program Librarian. ➤ Coordinates documentation changes. ➤ Logs, tracks, updates, and reports on CM activities, and prepares reports for called CM meetings.

CM Role	Responsibility
DOE EA Program Librarian	➤Maintains copies of all configuration control documents on the OCIO Portal. ➤Maintains the DOE EA Program CM change documents. ➤Ascertains that no unauthorized changes have been made and no files have been added, deleted, or changed erroneously. ➤Makes artifact releases as instructed by the Configuration Manager. ➤Ensures version control and validates all releases. ➤Maintains the version control numbering schema. ➤Assigns version control numbers to artifacts. ➤Maintains distribution lists for changed documents/release updates.
Technical Writer	➤Ensures changes are clearly presented. ➤Reviews and updates documents for conformance to established standards and is acceptable for publication. ➤Controls and maintains issued documents. ➤Ensures master copy of documents is placed on the OCIO Portal.

2.2 Types of Changes

Four levels of changes are identified and defined in the following chart. All of the types of changes are subject to the approval of the Chief Architect or the Chief Architect's approval for forwarding to the next higher level, as appropriate.

Type	Change Type	Change Type Definition
1	Minor; OCIO EA Team Approval	Type 1 changes are exempt from a full CCB authorization cycle. However, they must be logged into the CM process either before or as soon as possible after implementation. These changes are generally made during draft development and are recorded on a separate comment change document. These changes include minor modifications made after a final product has been distributed, and can be recorded on the historical change page contained in the document.
2	EAWG Approval	Type 2 changes are based on the EAWG charter. These changes impact a specific Program/Staff Office, but have the potential of impacting more Offices. These changes generally require a substantial change to the document causing a release change.
3	ARB Approval	Type 3 changes are based on the ARB charter. These changes cut across two or more of the five Lines of Business (LOB), i.e., Science, Defense, Energy, Environment, and General Management. These changes generally require a substantial change to the document causing a version change.
4	IT Council Approval	Type 4 changes are not change requests per se, but are decisions by the ARB that an artifact has changed to such an extent that it needs IT Council re-approval.

2.3 DOE EA Program Versioning Policy

There are two methods for tracking the versions of DOE EA Program artifacts—through the automated versioning capability of the OCIO Portal and through the use of a naming convention schema. Both methods will be used for version control. These methods provide a mechanism

for keeping the complete text of the latest revision of a file and all its change deltas. This allows any prior revision of the artifact to be reconstructed.

2.3.1   OCIO Portal Version Control

The OCIO Portal provides two methods for accessing the DOE EA Program artifacts stored there, besides simply viewing an artifact from the Portal.

➢ Artifacts can be placed on a desktop computer using the download feature (not the same as the check-out feature), and modified, but they cannot be uploaded without going through the DOE EA Program Librarian. Also, uploading will not automatically change the version number on the artifact and has no impact on the version control feature of the OCIO Portal. Downloading and uploading is a useful feature for obtaining feedback from DOE EA participants.

➢ Artifacts can be placed on a desktop computer using the check-out and check-in feature on the Portal. When an artifact is checked out, it is not accessible by any other Portal user. This feature should *not* be used unless the intent is to change the version of the artifact as recorded on the Portal and should only be done by the DOE EA Program Librarian. The Portal does not physically enter a version control number on the artifact. It stores another copy on the Portal via a version number, beginning with "2," when checked back in (as part of its file management system), and then incremented thereafter with each check-out/check-in. Only the technical writer assigned to the document should be using the check-out and check-in feature in coordination with the DOE EA Program Librarian. When the intent is to change the version number, the Technical Writer should consult with the DOE EA Program Librarian to obtain a version control number that will be physically placed on the artifact.

2.3.2   Naming Convention Schema

To ensure proper control of artifacts, a naming convention schema has been devised and is included as Attachment A. The DOE EA Program Librarian is responsible for creating version control formats for the various artifacts in the DOE EA Program. Whenever a new version of an artifact will be issued, the DOE EA Program Librarian will issue a version control number to the Technical Writer. The Technical Writer must coordinate with the DOE EA Program Librarian.

2.4   General Mechanics of the CM Process

In general, the CM process will entail the following steps. Section 3 describes these in more detail when discussing the four components of the CM process—Identification, Change Control, Auditing, and Status Accounting.

Step	Who	Description
CA = Chief Architect; CCB=Configuration Change Board; CM = Configuration Manager; LIB=DOE EA Program CM Librarian; All=EA Participants		
1	All	Initiates Change Request (recognizes artifact problems and improvements).
2	CA/CM	Collects Change Requests.
3	CM	Assigns to CCB for preliminary investigation if Type 2 or 3.
4	CA/CM	Performs preliminary investigation and determines the feasibility and impact.
5	CM	Identifies the artifact configuration items affected and completes the configuration log.
6	CA	Consults with ARB, EAWG, OCIO EA Team for approval/disapproval.
7	CA	Consults with ARB, EAWG, OCIO EA Team for prioritization of approved Change Requests.
8	CA	Devise/revise artifact release plan with Configuration Manager.
9	CA	Assigns to OCIO EA Team or Technical Writer to implement change.
10	CA/CM	Implements change and ensure a review is performed by the appropriate staff or group.
11	CM/LIB	Makes new release.
12	All	Performs acceptance process.
13	CA	Signs off on release.
14	CA/CM	Issues new release.

3. DOE EA CM Process Implementation

The DOE EA Program CM process includes configuration item identification, a change control process, an auditing process prior to the release of an artifact, and a method for recording and tracking changes. This section addresses these four components of the CM process as Identification, Change Control, Auditing, and Status Accounting.

3.1. Identification

The first step in the DOE EA Program CM process is the identification of the items to be managed and the specification of the Management Authority/Technical Writer responsible for each item. This identification scheme is employed throughout the lifecycle of the artifact.

DOE EA Program configuration items include EA tools and their associated documentation, DOE EA documents and models, Program/Staff Office architectural documents uploaded to the OCIO Portal, and other items as determined by the DOE Chief Architect, EAWG, or ARB that are subject to continuous change and must be maintained.

Note: Some DOE EA Program configuration items are managed by specific CM plans. The DEAR configuration items are specified in the DEAR Configuration Management Plan. The EITA Model CM Plan is contained in the EITA document.

3.1.1 Responsibility

The responsibility and authority for identifying configuration items will be performed by the Chief Architect in conjunction with the EAWG or ARB, as appropriate. The artifact developers will identify/propose configuration items during the design and development stage of each artifact.

The DOE EA Program Configuration Manager will review and make sure that the items are not omitted. The DOE EA Program Librarian will maintain a record for each item in the configuration management list or database, along with the name of the associated Management Authority/Technical Writer and a sunset review date. These functions will be performed as part of the OCIO EA Team's ongoing functions.

3.1.2 Identify Configuration Items

The DOE EA Program configuration items are segregated into high-level categories as listed below, along with an initial set of configuration items.

- ➢ DOE EA Program Documentation
  - ➢ As-Is Architecture
  - ➢ Target Architecture

- ➤ Transition Plan
- ➤ Segment Architectures
- ➤ Energy Information Technology Architecture (EITA)
- ➤ Enterprise Business Model
- ➤ Strategic Portfolio Review
- ➤ Integrated EA/CPIC Process
- ➤ EA Communications Strategy
- ➤ IT Security Architecture

- ➤ DOE EA Program Tools
  - ➤ DOE Enterprise Architecture Repository (DEAR)
  - ➤ DOE EA Community on the OCIO Portal
  - ➤ CIO EA community on the OCIO Portal

- ➤ DOE EA Program Models
  - ➤ Enterprise Business Model (EBM)
  - ➤ Enterprise Data Model (EDM)
  - ➤ Enterprise Service Model (ESM)
  - ➤ EITA Model
  - ➤ Federated Framework

- ➤ DOE EA Program Standards
  - ➤ Technical, as related to the EITA
  - ➤ Data, as related to the EDM
  - ➤ Service-Oriented Architecture, as related to the ESM
  - ➤ Business, as related to the EBM

- ➤ Other Artifacts Related to the DOE EA Program.
  - ➤ Governance Policies and Procedures Guide
  - ➤ DOE EA Program Glossary
  - ➤ DOE EA Artifact Definitions
  - ➤ Plan of Actions and Milestones (POAM)
  - ➤ Program Management Plan
  - ➤ Working Group Charters
  - ➤ Working Group Agenda
  - ➤ Working Group Minutes
  - ➤ Working Group Presentations and Briefings
  - ➤ OMB EA Assessment Framework Self-Assessment
  - ➤ GAO EA Management Maturity Framework Assessment
  - ➤ IG Audit Reports
  - ➤ Performance and Accountability Report (PAR)
  - ➤ Strategic Plans
  - ➤ EA Tool Assessment and Recommendation

➢ EA Metamodel Entity Relationship Diagram
➢ DOE EA Program CPIC Forms 53 and 300
➢ Contractor Status Meeting Material
➢ Organizational Charts
➢ Training Materials
➢ EAWG Req Status Chart
➢ Miscellaneous Program Planning Artifacts
➢ Miscellaneous Reports
➢ Forms

The following subsections provide further information regarding the identification of the configuration items.

3.1.2.1 DOE EA Program Documentation Identification

During the progression of the DOE EA Program, principal documents will be maintained and updated with each release to OMB, as scheduled, or as needed. The following are the currently identified principal documents, which are generally issued each September to OMB. Updates may be provided in February or June.

➢ DOE Baseline Enterprise Architecture, which covers the current EA blueprint

➢ DOE Modernization Plan or Target Architecture, which covers the future EA blueprint

➢ DOE Transition Plan, which covers the transition from the current to the future EA blueprint and contains the sequencing plan

All DOE EA Program documents will contain the Document Name, Publication Date, Project Team or Group or Program/Staff Office Name, Author(s), and Approval/Concurrence Signatures (if appropriate). Documents will be issued in draft and final forms.

As changes are made to the DOE EA Program, any or all of the documents will require modification. For draft documents, the changes would be incorporated in the current version and would be noted in the change history page of the affected documents. For final documents, change pages would be issued. Change pages will be enumerated in a change page log in each document. Final documents with multiple change pages may be reissued in its entirety.

The Chief Architect will be responsible for the release of the documents in coordination with the EAWG or ARB, as appropriate. The Technical Writer or developer will control and maintain the original and revised electronic versions, and ensure that the DOE EA Program Librarian and DOE EA Program Configuration Manager are apprised of its progress and the need for version control. The DOE EA Program Librarian will maintain a version control log. The DOE EA Program Librarian must be apprised of any upload to the OCIO Portal. The DOE EA Program

Configuration Manager will ensure that the changes are noted on the change history page and that requests for changes are entered in a log and processed.

3.1.2.2 DOE EA Program Tool Identification

The DOE EA Program tools will be managed by separate CM plans and follow the configuration item identification process in those plans. Although the OCIO Portal is considered a tool of the DOE EA Program, its management is not under the purview of the DOE EA Program CM Plan. Only the community residing on the OCIO Portal will be managed by the DOE EA Program.

The CM process for the tools documentation should be equivalent to the process for the DOE EA Program CM Plan, that is, change history pages, version control, approval process, etc. for any documentation developed by the DOE EA Program, as specified in section 3.1.2.1. The DOE EA Program Librarian must be apprised of the need for version control and will maintain tool documentation version numbers in the log. The DOE EA Program Librarian must be apprised of any upload to the OCIO Portal. Vendor documentation is not under the purview of the DOE EA Program CM Plan.

3.1.2.3 DOE EA Program Model Identification

The DOE EA Program models will be managed by separate CM plans, which should be included within the documentation. For example, the EITA CM plan is specified within the *U.S. Department of Energy Information Technology Architecture* document.

These plans should specify how the models are updated, not how the documentation is updated. The DOE EA Program CM Plan specifies how the documentation for the models will be updated, that is, change history pages, version control, approval process, etc., as specified in section 3.1.2.1. The DOE EA Program Librarian must be apprised of the need for version control and will maintain tool documentation version numbers in the log. The DOE EA Program Librarian must be apprised of any upload to the OCIO Portal.

3.1.2.4 DOE EA Program Standards Identification

The DOE EA Program standards will be managed by the Technical Review Board according to its CM plans for updating the standards and the standards processes.

These plans should specify how the standards are updated, not how the documentation is updated. The DOE EA Program CM Plan specifies how the documentation for the standards will be updated, that is, change history pages, version control, approval process, etc., as specified in section 3.1.2.1. The DOE EA Program Librarian must be apprised of the need for version control and will maintain documentation version numbers in the log. The DOE EA Program Librarian must be apprised of any upload to the OCIO Portal.

3.1.2.5 Other DOE EA Program Configuration Item Identification

Most of these artifacts do not need configuration management, per se, but must be accounted for and managed if they are placed on the OCIO Portal.

For those artifacts that are under the direct sponsorship and purview of the DOE EA Program, the same process specified in section 3.1.2.1 will be followed.

Generally, Program/Staff Office artifacts that are retained as part of the DOE EA Program artifacts are not under the CM of the DOE EA Program CM Plan. It is the responsibility of the Program/Staff Offices to provide the configuration management for their contributions. However, these contributions will be logged by the DOE EA Program Librarian and may be archived at the discretion of the Chief Architect. Examples are validation files, comments to documentation, office-specific documentation, etc.

3.2 Change Control

The primary function of configuration control is to provide the administrative mechanism for initiating, preparing, evaluating and approving or disapproving all change proposals throughout the artifact lifecycle. It includes procedures for controlling changes, levels of authority (e.g., Configuration Control Board) for formally evaluating and approving/disapproving proposed changes, and documentation for initiating and defining a proposed changed.

In a multi-phased program, the introduction of new artifacts and focal areas will be controlled through the change control procedures. Change control requires the systematic evaluation, coordination, and approval or disapproval of proposed changes to the defined baseline. Any addition, alteration, or deletion to the approved baseline is deemed a change and is subject to change control. Changes that are completed and accepted by the user become the approved baseline for the program.

3.2.1 Responsibility

The following roles and responsibilities will ensure orderly change.

> **Project Manager** interfaces with the subcontractors and the DEAR Development Team to ensure that change control procedures are followed and that the developed application meets the users' expectations. The Project Manager is Judy Griffin.

> **Configuration Manager** will determine the areas that are affected by each artifact configuration item. The areas that may be affected include module code changes, documentation, tutorial, test changes, databases, file indexes, conversion, and setup or manual procedures. The DEAR Configuration Manager is to be assigned as part of

the DEAR Development Team's duties. The DOE EA Program Artifact Configuration Manager is to be assigned as part of the OCIO EA Team.

Artifact Librarian ensures version control of all artifact versions. The DOE EA Artifact Librarian is to be assigned as part of the OCIO EA Team's duties.

Technical Writer or Document Preparer ensures that documentation is controlled in accordance with artifact configuration items identified by the DOE EA Program Artifact Configuration Manager. The Technical Writer or Document Preparer can be any member of the EAWG.

Program/Staff Office Point(s) of Contact are responsible for identifying, approving, and prioritizing artifact changes with the DOE EA Chief Architect. The Chief Architect is Robert J. Wallace, and the Points of Contact are contained on the EAWG Distribution List.

A formal Change Control Board does not need to be organized. An informal group consisting of the DOE EA Chief Architect and OCIO EA Team will meet as necessary to review artifact change requests. Put in how the EAWG and ARB interact with CM. The Project Manager and DEAR Configuration Manager would review application change requests per the DEAR Configuration Management Plan. To ensure that the artifact configuration management system runs smoothly, all of the above individuals should agree on the following.

Change request procedures.

Criteria for prioritizing, evaluating, and approving a change request.

Procedures for getting a change completed.

Emergency fix procedures.

Adequate review procedures.

The exit review will determine if the release is ready.

Development	Items are developed or updated including: ??? When a version is ready for release, a snap shot of all the items within the revision that makes up the release will be placed on a change control page.
Review/ Acceptance Finalization/ Approval	

The steps in these procedures are documented in appendix B. The level of involvement by the individuals cited in this section will be negotiated prior to implementation of the procedures.

3.2.2 Artifact Configuration Control Documents

Control documents are needed to track and manage changes to software and documentation. These forms will be maintained by the Artifact Librarian. The following forms will be used.

> **Artifact Change Request (ACR)** - used to report problems and suggestions for improvement. A design of this form is in appendix C.

> **Portal Modification Record (AMR)** - used to suggest changes to the community location for improved location of artifacts. A design of this form is in appendix D.

3.3 Auditing

Auditing verifies that configuration items reflect program objectives, meet DOE standards, and satisfy user requirements. An audit should be performed prior to release of a new or revised artifact to ensure (1) it is the correct version and the revision(s) correspond to the configuration status report, and (2) the revisions have been reviewed to determine that it was correctly made.

3.3.1 Responsibility

The OCIO EA Team, working with the EAWG and ARB, will follow a technical review process to ensure the quality.

3.3.2 Review Procedures

The following reviews will be performed during artifact development and revision.

> **EAWG Review** is a request for review to the EAWG members, who may circulate an artifact within their Program/Staff Office for comment.

> **Structured Walkthroughs** are informal meetings among the EAWG to review and evaluate the artifacts as developed or changed.

> **Artifact Acceptance** is the final review and is related to an action on the DOE EA POAM.

3.4 Status Accounting

Status accounting provides recording and tracking of all significant artifact development, problems, changes, or actions. Sunset review date.

3.4.1 Responsibility

The OCIO EA Team will be responsible for recording and tracking all configuration items, events, and releases through the Configuration Manager.

3.4.2 Recording

A *Microsoft Access* database will be established for the purpose of artifact configuration management tracking. This database will be called the DOE EA ACM database and will contain information about reported problems, requested changes, and modifications made as they apply to identified configuration items. The artifact configuration control documents and attachments would provide details and an audit trail.

The following information will be recorded from the Artifact Change Request Form, depicted in appendix C.

> Requirement #
> ACR Control Number (assigned by the system)
> Originator
> Date Submitted
> Current Release Number
> Type of Request
> Priority (High, Normal, Low)
> Title
> Description
> Status (Open, Reviewed/Estimated, On Hold, Canceled, Approved, Documented, Completed)
> Status Date
> Comments (memo field)
> AMR Control Number
> New Release Number

The following information will be recorded from the Artifact Modification Record Form, depicted in appendix D.

> AMR Control Number (assigned by the system)
> Developer
> Release Number
> Module/Version
> Class
> Title
> Description
> List of configuration items that applies.

Status (Coded, Released, Tested, Documented, Approved)
Status Date
Comments (memo field)

A commercial database package, such as *Microsoft Access*, would easily support the needs of artifact configuration management tracking by providing an environment for recording, reporting, and flexibility for change.

3.4.3 Reporting

The OCIO EA Team will be able to use *Microsoft Access* to produce standard or ad hoc reports from the DOE EA ACM database in order to provide an accurate picture of the status of problem reports and change requests. Standard reports may include the following.

Change Request Report - Summary
Modification Record Report - Summary
Open Change Requests - Detail
Closed Change Requests - Past Month
Artifact Release Report - Detail

Appendix A
Naming Convention Schema

The following list of task/document naming conventions for the DOE EA Program and the DOE EA repository may not all be listed, but will be added as identified.

DOE EA PROGRAM CONFIGURATION MANAGEMENT NAMING CONVENTION SCHEMA DOE EA PROGRAM (DOE EA) Note: All DOE EA Program tasks/document version numbers begin with "EA."						
1ST Tier—Task/Document	Symbol	2nd Tier—Project/Type	Symbol	3rd Tier—Document and Version	Symbol and Number(nn)	Date
Acquisition	AP	Agreement	AG	Action Items	ACnn	mmddyy
Architecture Review Board	AB	Assessment	AS	Agenda	AGnn	
As-Is Architecture	AA	Baseline	BA	Draft	DRnn	
Configuration Management	CP	Brochure	BR	Final	FInn	
Communications	CS	Charter	CH	Form	FOnn	
Enterprise Architecture Glossary	GL	Diagrams	DI	Presentation	PRnn	
EA Working Group	EG	Guidance	GU	Report	RPnn	
Enterprise Artifact Definitions	AD	Internal Process	IP	Summary	SUnn	
Enterprise Business Model	EB	Meeting	ME	Survey	SVnn	
Enterprise Data Model	DB	Model	MO	Template	TMnn	
Enterprise Performance Model	EP	Mission	MS	Worksheet	WSnn	
Enterprise Services Model	SB	Plan	PL			
Enterprise Technology Model	ET	Policy	PO			
Federated Working Group	FG	Principles	PR			
Feasibility Study	FS	Procedure	PC			
Governance Working Group	GG	Process	PS			
GAO EA Maturity	GM	Review	RV			
Integrated EA/CPIC Process	IP	Schedule	SD			
Inspector General	IG	Standing Committee	SC			

DOE EA PROGRAM CONFIGURATION MANAGEMENT NAMING CONVENTION SCHEMA DOE EA PROGRAM (DOE EA) Note: All DOE EA Program tasks/document version numbers begin with "EA."						
1ST Tier—Task/Document	Symbol	2nd Tier— Project/Type	Symbol	3rd Tier—Document and Version	Symbol and Number(nn)	Date
Metamodel	MM	Strategy	ST			
OMB EA Assessment	OA	Tool	TL			
Plan of Action and Milestones	PO	Vision	VS			
Project Plan	PP	Volume n	Vn			
Program Management Plan	PM	Website	WS			
Program Office Files	PF	Work Product	WP			
Requirements Management	RM					
Risk Management	RI					
Security Architecture	SC					
Segment Architecture	SA					
Staff Office Files	SF					
Standard Architecture	ST					
Strategic Plan	SP					
Strategic Portfolio Review	SR					
Target Architecture	TA					
Transition Plan	TP					

DOE EA PROGRAM CONFIGURATION MANAGEMENT NAMING CONVENTION SCHEMA DOE ENTERPRISE ARCHITECTURE REPOSITORY (DEAR) Note: All DEAR task/document version numbers begin with "DEAR."						
1ST Tier—Task/Document	Symbol	2nd Tier	Symbol	3rd Tier	Symbol	Date
Certification and Accreditation	CA	Agreement	AG	Action Items	ACnn	mmddyy
Configuration Management	CM	Assessment	AS	Agenda	AGnn	

DOE EA PROGRAM CONFIGURATION MANAGEMENT NAMING CONVENTION SCHEMA DOE ENTERPRISE ARCHITECTURE REPOSITORY (DEAR) Note: All DEAR task/document version numbers begin with "DEAR."						
1ST Tier—Task/Document	**Symbol**	**2nd Tier**	**Symbol**	**3rd Tier**	**Symbol**	**Date**
Contingency Plan	CP	Baseline	BA	Draft	DRnn	
Data Dictionary	DD	Brochure	BR	Final	FInn	
Encyclopedia	EC	Charter	CH	Form	FOnn	
Memorandum of Agreement	MA	Diagrams	DI	Presentation	PRnn	
Metamodel	MM	Guidance	GU	Report	RPnn	
Plan of Action and Milestones	PO	Internal Process	IP	Summary	SUnn	
Popkin	PK	Model	MO	Survey	SVnn	
Questions	QS	Mission	MS	Template	TMnn	
Registration	RG	Plan	PL	Worksheet	WSnn	
Requirements Management	RM	Policy	PO			
Risk Management	RI	Principles	PR			
Secure Technical Implementation Guide	SG	Procedure	PC			
Self-Assessment	SA	Process	PS			
Server Baseline	SB	Report	RP			
Standard Operating Procedure	SO	Review	RV			
Test and Evaluation Plan	TE	Schedule	SD			
Test Plan	TP	Standing Committee	SC			
User Guide	UG	Strategy	ST			
		Tool	TL			
		Vision	VS			
		Volume n	Vn			
		Website	WS			
		Work Product	WP			

Appendix B
CM Process

FOR OFFICIAL USE ONLY

Appendix C
Change Request (CR) Form

0 Change Request (ACR) Requirement #_____ ACR#_____ Originator:_____ Date:_____ Release#_____ Type: ( ) Documentation Correction ( ) Suggestion for Improvement ( ) Other:_____ Priority: ( ) High ( ) Normal ( ) Low Description: Please attach supporting documentation for the requested change (Document pages affected, etc.) Status	Date	Initials/Comments
Reviewed & Estimated		
On Hold		

FOR OFFICIAL USE ONLY

Appendix D
Portal Modification Record (MR) Form

0 **Modification Record (MR)** **MR#_____**	Date	Comments

Developer:_____
Date:_____
Release#_____
 	
Source: ( ) New Design   ( )
     CR#_____   ( )
          Other:_____
 	
Module:_____
 	
Class:
( ) Reports
( ) Other:
_____
 	
Description:
 	
Configuration Items:		

Status	Date	Initials/Comments
Released		
Documented		
User Approval		