For instructions on using this template, please see Notes to Author/Template Instructions on page 25. Notes on accessibility: This template has been tested and is best accessible with JAWS 11.0 or higher. For questions about using this template and To request changes to the template, please contact [CMS IT Governance](mailto:IT_Governance@cms.hhs.gov) ([IT\_Governance@cms.hhs.gov](mailto:IT_Governance@cms.hhs.gov)).

|  | Centers for Medicare & Medicaid Services |
| --- | --- |

<Project Name / Acronym>

Configuration Management (CM) Plan

Version X.X

MM/DD/YYYY

**Document Number:** <document’s configuration item control number>

**Contract Number:** <current contract number of company maintaining document>

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# Introduction

Instructions: Summarize the purpose of the document, the scope of activities that resulted in its development, the intended audience for the document, and expected evolution of the document. Also describe any security or privacy considerations associated with use of this document.

This Configuration Management (CM) Plan establishes the technical and administrative direction and surveillance for the management of configuration items (i.e., software, hardware, and documentation) associated with the <Project Name (Acronym)> that are to be placed under configuration control. This document defines the project’s structure and methods for:

* Identifying, defining, and baselining configuration items (CIs);
* Controlling modifications and releases of CIs;
* Reporting and recording status of CIs and any requested modifications;
* Ensuring completeness, consistency, and correctness of CIs; and
* Controlling storage, handling, and delivery of CIs.

As the project matures, appropriate sections of this plan will require periodic updating.

# Overview

Instructions: Provide a high-level overview of the project. Focus on the process and deliverable aspects of the project, including contract type, major milestones, and stakeholders.

## System Description

Instructions: Provide a brief description of the system, its history, and the environment in which it operates (e.g., mainframe, client/server, standalone, etc.).

## System Architecture

Instructions: Describe the planned system architecture, operating system, and application languages. Identify other legacy or new systems with which this system interfaces.

# Assumptions / Constraints / Risks

## Assumptions

Instructions: Describe any assumptions or dependencies regarding the CM approach for the project. These may concern such issues as: conventions for labeling configuration items, related software or hardware, operating systems, or end-user characteristics.

## Constraints

Instructions: Describe any limitations or constraints that have a significant impact on configuration management of the project. Such constraints may be imposed by any of the following (the list is not exhaustive):

1. Hardware or software environment
2. End-user environment
3. Availability of resources
4. Interoperability requirements
5. Interface/protocol requirements
6. Data repository and distribution requirements.

## Risks

*Instructions: Describe any risks associated with configuration management for the project and proposed mitigation strategies.*

# Configuration Management Approach

## Methods & Tools

*Instructions: Describe the methods, processes, tools and techniques that will be used for configuration management, and how they will integrate with other project processes (e.g., change management, quality management, contract management, subcontractor management, project monitoring and control, risk management, etc.). As appropriate, refer to the Project Management Plan (PMP) and/or any applicable subordinate plans that may exist (e.g., Change Management Plan, Quality Management Plan, Release Management Plan, etc.*

Table 1: Configuration Management Processes

| Process | Tools & Techniques |
| --- | --- |
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## Roles & Responsibilities

*Instructions: Identify key personnel responsible for configuration management. Describe their responsibilities for activities such as configuration identification, configuration control, configuration auditing/reporting, etc for software, hardware, and documentation. If appropriate, include an organizational chart depicting the independent reporting structure for the configuration management organization.*

Table 2: Roles and Responsibilities

| Name | Role | Responsibility |
| --- | --- | --- |
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## Environment

*Instructions: Describe the technical architecture, setup, and maintenance of the CM environment.*

# Configuration Management Administration

## Configuration Identification

*Instructions: Describe the process for identifying and documenting the functional and physical characteristics of items that are to be placed under configuration control. Identify how CIs will be selected and the types of configuration documentation required for each CI. Also, identify how configuration identification information will be maintained and made readily available to all CMS decision makers.*

## Naming Standard

*Instructions: Describe the standard to be followed for uniquely naming CIs. For example, naming standards may be based on the type and version of the CI and/or criteria about the component’s location, model, function, etc. Describe the hierarchical structure established to identify and summarize the CIs comprising the project, product, or automated system. The identification scheme needs to cover hardware, system software, commercial-off-the-shelf (COTS) products, documentation, and all application development artifacts listed in the product directory structure (e.g., plans, models, software components, test results and data, executables, etc.).*

### Baselines

*Instructions: Identify the types of configuration baselines that will be established for the project. Provide a brief description of what types of CIs each baseline contains. Explain when and how they will be defined. The following are some sample baselines that may be considered for inclusion:*

* *Functional - Describe where system functional characteristics will be established and the process by which the baseline will be managed.*
* *Allocated - Describe where the functional and interface characteristics will be established and the process by which the baseline will be managed.*
* *Development - Describe where the development baseline will be established and the process by which it will be managed.*
* *Test - Describe where the test baseline will be established and the process by which it will be managed.*
* *Product - Describe where product baseline (consists of completed and accepted system components and documentation that identifies the products) will be established and the process by which it will be managed.*

### Storage & Retention

*Instructions: Describe how the CIs are to be retained and recorded in the project inventory (e.g., online, offline, media type, and format). Also describe the overall retention policies of all CIs, especially as they apply to back-ups, contingency plans, and disaster recovery plans.*

## Configuration Control

*Instructions: Identify when CIs will be placed under configuration control. Identify and briefly describe the control mechanisms that will be used for establishing CM baselines and approving or disapproving subsequent changes to those baselines (e.g., Configuration (or Change) Control Board (CCB)).*

### Impact Analysis

*Instructions: Define the process by which the impact of approved changes and/or problem reports affecting baselined CIs under configuration control are assessed.*

### Tracking & Controlling Changes to CI Baseline

*Instructions: Describe how approved changes to identified CIs and/or changes to the CI List developed or maintained by the project will be properly documented, implemented, verified, and tracked to ensure incorporation in all applicable systems and/or products. If applicable, describe how changes identified during ongoing maintenance of products/systems operating in production will cycle forward into new business needs for appropriate analysis and consideration prior to modification of existing, or development of new, products/systems in response to requested changes.*

## Configuration Integrity

*Instructions: Describe the process used to build managed and controlled baselines. A flow diagram and narrative of the progress of CIs through the CMS IT life cycle is recommended. Documentation baselines should be noted. Describe how the versions of each CI in a baseline will be tracked, and how the differences between baselines will be determined and reported. Identify how audits of software and hardware configuration baselines in the production environment will be performed to ascertain that no unauthorized changes have been made without proper approval.*

### Configuration Status Accounting

*Instructions: Describe the process for recording and reporting information needed to maintain integrity and traceability of controlled CIs and associated documentation throughout the life cycle. This includes the process for monitoring the status of proposed changes and the implementation status of approved changes (e.g., what changes have been made, when the changes were made, and what components were affected by the changes). Examples of CM records might include a Change Request Log, a CI Revision History, etc. Describe how site configuration data will be developed and maintained and plans for the incorporation of modification data on products and CIs. Also, identify how configuration status accounting information will be maintained and made readily available to all CMS decision makers.*

### Configuration Audits

*Instructions: Describe the process for performing internal and external configuration audits of identified and controlled CIs (software and non-software). Specify the type and number of audits to be conducted during the project life cycle. The level of rigor or frequency of audits should be adjusted according to the size and complexity of the project. For developmental and operational systems, describe the process for periodically reconciling against their documentation to ensure consistency between the product and its current baseline documentation.*

1. Record of Changes

*Instructions: Provide information on how the development and distribution of the Configuration Management Plan will be controlled and tracked. Use the table below to provide the version number, the date of the version, the author/owner of the version, and a brief description of the reason for creating the revised version.*

Table : Record of Changes

| Version  Number | Date | Author/Owner | Description of Change |
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1. Acronyms

Instructions: Provide a list of acronyms and associated literal translations used within the document. List the acronyms in alphabetical order using a tabular format as depicted below.

Table : Acronyms

| Acronym | Literal Translation |
| --- | --- |
| **CCB** | Configuration (or Change) Control Board |
| **CI** | Configuration Item |
| **CM** | Configuration Management |
| **CMS** | Centers for Medicare & Medicaid Services |
| **PMP** | Project Management Plan |
| **PPA** | Project Process Agreement |
| **SDMP** | System Development Management Plan |
|  |  |

1. Glossary

Instructions: Provide clear and concise definitions for terms used in this document that may be unfamiliar to readers of the document. Terms are to be listed in alphabetical order.

Table : Glossary

| Term | Definition |
| --- | --- |
| **Baseline** | (1) A specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development, and that can be changed only through formal change control procedures. (2) A document or a set of such documents formally designated and fixed at a specific time during the life cycle of a configuration item. (3) Any agreement or result designated and fixed at a given time, from which changes require justification and approval.  (IEEE Std. 610-12-1990) A baseline is a configuration identification formally designated and applicable at a specific point in the life cycle of a configuration item. |
| **Build** | An operational version of a system or component that incorporates a specified subset of the capabilities that the final product will provide. (IEEE Std. 610-12-1990) |
| **Configuration** | The functional and physical characteristics of hardware or software as set forth in technical documentation or achieved in a product. (IEEE Std. 610-12-1990) |
| **Configuration Audit** | A functional configuration audit is conducted to verify that the development of a configuration item has been completed satisfactorily, that the item has achieved the performance and functional characteristics specified in the functional and allocated configuration identification, and that its operational and support documents are complete and satisfactory. A physical configuration audit is conducted to verify that a configuration item, as built, conforms to the technical documentation that defines it. (IEEE Std. 610-12-1990) |
| **Configuration Control** | An element of CM, consisting of the evaluation, coordination, approval or disapproval, and implementation of changes to configuration items after formal establishment of their configuration identification. (IEEE Std. 610-12-1990) |
| **Configuration (or Change) Control Board (CCB)** | A group of people responsible for evaluating and approving or disapproving proposed changes to configuration items, and for ensuring implementation of approved changes. (IEEE Std. 610-12-  1990) |
| **Configuration Identification** | An element of CM, consisting of selecting the configuration items for a system and recording their functional and physical characteristics in technical documentation. (IEEE Std. 610-12-1990) |
| Configuration Item (CI) | An aggregation of hardware, software, or both, that is designated for configuration management and treated as a single entity in the configuration process. (IEEE Std. 610-12-1990) |
| Configuration Management (CM) | A discipline applying technical and administrative direction and surveillance to identify and document the functional and physical characteristics of a configuration item, control changes to those characteristics, record and report change processing and implementation status, and verify compliance with specified requirements. (IEEE Std. 610-12-1990) |
| Configuration Status Accounting | An element of CM, consisting of the recording and reporting of information needed to manage a configuration effectively. This information includes a listing of the approved configuration identification, the status of proposed changes to the configuration, and the implementation status of approved changes. (IEEE Std. 610-12-1990) |
| Product | A physical entity (e.g., a piece of hardware or software) or artifact (e.g., a document) that is created by someone or some process. |

1. Referenced Documents

Instructions: Summarize the relationship of this document to other relevant documents. Provide identifying information for all documents used to arrive at and/or referenced within this document (e.g., related and/or companion documents, prerequisite documents, relevant technical documentation, etc.).

Table : Referenced Documents

| Document Name | Document Location and/or URL | Issuance Date |
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1. Approvals

The undersigned acknowledge that they have reviewed the Configuration Management Plan and agree with the information presented within this document. Changes to this Configuration Management Planwill be coordinated with, and approved by, the undersigned, or their designated representatives.

*Instructions: List the individuals whose signatures are desired. Examples of such individuals are Business Owner, Project Manager (if identified), and any appropriate stakeholders. Add additional lines for signature as necessary.*

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1. Notes to the Author / Template Instructions

This document is a template for creating a Configuration Management Plan for a given investment or project. The final document should be delivered in an electronically searchable format. The Configuration Management Plan should stand on its own with all elements explained and acronyms spelled out for reader/reviewers, including reviewers outside CMS who may not be familiar with CMS projects and investments.

This template includes instructions, boilerplate text, and fields. The developer should note that:

* *Each section provides instructions or describes the intent, assumptions, and context for content included in that section. Instructional text appears in blue italicized font throughout this template.*
* *Instructional text in each section should be replaced with information specific to the particular investment.*
* *Some text and tables are provided as boilerplate examples of wording and formats that may be used or modified as appropriate.*

When using this template, follow these steps:

1. *Table captions and descriptions are to be placed centered, above the table.*
2. *Modify any boilerplate text, as appropriate, to your specific investment.*
3. *Do not delete any headings. If the heading is not applicable to the investment, enter “Not Applicable” under the heading.*
4. *All documents must be compliant with Section 508 requirements.*
5. *Figure captions and descriptions are to be placed centered, below the figure. All figures must have an associated tag providing appropriate alternative text for Section 508 compliance.*
6. *Delete this “Notes to the Author / Template Instructions” page and all instructions to the author before finalizing the initial draft of the document.*
7. Template Revision History

The following table records information regarding changes made to the template over time. To provide information about the controlling and tracking of this artifact, please refer to the Record of Changes section of this document.

Table : Template Revision History

| Version  Number | Date | Author/Owner | Description of Change |
| --- | --- | --- | --- |
| 1.0 | 07/29/2020 | Alex Smith  CMS/OIT/ICPG/DIIMP | Baseline document. |
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1. Additional Appendices

Instructions: Utilize additional appendices to facilitate ease of use and maintenance of the document.