Corporate Property Automated Information System (CPAIS)
Change Request (CR)
Process Overview

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Revision Log

The following table provides a log of each revision of the document that has been issued.

Status	Version	Description	Author	Date
First Draft	1.0	First Draft	Cheryl White	8/24/2004
Modified Draft	1.0	Add table of contents, change process flow diagram, add revision log	Cheryl White	9/10/2004
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Introduction
This document describes the Corporate Property Automated Information System (CPAIS) Change Management Process (CMP) as it relates to Change Requests (CRs) submitted for consideration on the CPAIS. This CMP is designed to comply with the guidelines of the Capability Maturity Model Integration (CMMI) level 2.

Steps for the CPAIS Change Request Process:

1. **CR Created** – A Change Request can be submitted by contacting the CPAIS Help Desk or completing the CR form on the Office of the Chief Information Officer (OCIO) Website (http://www.ocio.usda.gov/irm/forms/ocio_forms.html). The CR form is sent to the Configuration Manager (CM).

2. **CR Processing** –The CM reviews the CR for completeness and accuracy, and to prevent duplication of an existing change request. If necessary, the CM returns the CR to the requestor for additional information. If the CR is not a duplicate and is ready for processing, it is assigned a number and entered into the Change Request Database. A notification is sent to the CPAIS Help Desk to inform them of the pending change. The CM obtains options, estimates, and advice from the System Support Team. The CM then forwards the CR to the Systems Application Manager.

3. **CR Review and Analysis –** The Systems Application Manager reviews the CR, requesting more information from the CM if necessary, in order to be prepared to discuss it at the next Configuration Control Board (CCB) meeting. A recommended release date should be included in the discussion with the CCB.

4. **CCB Review** –The CCB reviews the CR and either defers, approves, or disapproves the requested change.
    a. A "deferred" CR is one that the board feels is desirable, but not for inclusion in the current or upcoming release.
    b. If the CCB disapproves the CR it is returned to the CM for closure and to the originator with an explanation as to why it was not approved.
    c. If it is recommended for approval, the CR is forwarded to the Systems Application Manager for implementation.

5. **Analysis, Clarification and Requirements Development –** Upon CCB approval, the CR is sent by the CM to the System Support Team and the meeting minutes are sent to the CPAIS Help Desk. The System Support Team analyzes the change request and develops requirements for a solution to it. This solution is described by requirements, design, and security specification documents. Before a change is made to a baseline, the documentation describing that baseline must be updated and approved.

6. **Requirements and Design Review and Approval –** The solution suggested by the System Support Team and defined by the appropriate documentation is subjected to inspection and

walkthrough. If the solution passes this inspection and is deemed correct, it receives Associate Chief Financial Officer for Financial Systems (ACFO-FS) and Office of Procurement and Property Management (OPPM), Property Management Division (PMD) sign-off and is assigned to the System Support Team to make the change in the Development Environment. The change is subjected to Unit Testing.

7. **Integration and System Test** – When the System Support Team has implemented the approved solution and Unit Testing is complete, the new software is evaluated in Integration and System Testing in the Development Environment. If the solution passes Integration and System Testing it is forwarded on with a Baseline Migration Request for review and validation. If the change fails, it is returned to the System Support Team for correction.

8. **CM Validation** – CM reviews the Migration Request for completeness and the requested components are extracted into the CM environment. At this stage any questions or conflicts with the material are resolved.

9. **Baseline Creation and Migration** – The new release is built in the CM environment. Upon successful completion of the Build, CM creates the baseline contents listing and stores it and the new release in the uniquely identified directory structure. CM migrates and installs the new release in the Quality Assurance/System Test environment, and then works with the Quality Assurance/System Test Team to validate the contents and functionality for formal acceptance.

10. **User Acceptance Testing** – The new Baseline/Release undergoes User Acceptance Testing, including regression and functional testing of all new and revised requirements for verification and acceptance of the changes. If the changed requirements, design, or functionality fail this step, the CR will be returned to the Requirements and Design Review Stage of the process for correction.

11. **Production Environment** – Once User Acceptance Testing is successfully completed and verified and with the consent of ACFO-FS and OPPM-PMD, CM installs the new Baseline and Releases it into the Production environment. (No new Baseline can be considered successfully changed and released until all configurable items and system documentation defining the Baseline is updated to reflect the change.)

12. **CM Closure** – Once the Production Environment is successfully deployed, the CCB is notified that the CR is complete and requests closure by the CCB. The CR is closed by the CM and the CPAIS Help Desk is notified.

This process is graphically illustrated on page 6 of this document. This process may be adjusted and improved as needed to keep abreast of changes in CPAIS operations, and will be amended as needed.

CR Priority and Severity

In following this process, the CM and the CCB will take into consideration the "priority" and "severity" of the proposed Change Request. The levels are defined below:

CR Priority

Routine – *Indicates that the change can be implemented when resources are available or with the next release (unless the release is very near in the future).*

Urgent – *Indicates that the problem can be tolerated for a short time, but should be corrected as soon as possible to prevent loss of system capability or user job-performance. (If a system shutdown is immediately imminent or users suddenly lose a needed capability, see EMERGENCY.)*

Mandated – *A CR that addresses a modification directed by or proposed to comply with orders, directives, or instructions from higher authority.*

Emergency – *Indicates the need to immediately correct an error that has caused or will cause a complete or severe loss of a high priority capability or system functionality, and no workaround is available. (Examples: 1) An application that shuts down the computer and causes an irrecoverable corruption of the database; 2) Sudden destruction/loss of a server hard drive.)*

CR Severity

Low – *Identifies an identified error that causes no serious operational problem or an identified system enhancement that would improve system utility.*

Medium – *Identifies an error that causes or can cause problems in operations or loss of server usability. A workaround or alternative is available (and the problem can be tolerated for a short time), but a permanent solution should be implemented; identifies an enhancement that would significantly improve system utility.*

High – *Indicates an error that causes or can cause a loss of service or loss of server usability to a large number of users or a mission-critical system; indicates an enhancement that would greatly prevent such losses or provide a major leap in system performance.*

Critical – *Indicates a problem that will or can crash the system or cause the complete loss of system capabilities.*

CRs identified as having a "Routine" priority represent the "normal" change process. These changes address problems or enhancements that will be included in the next scheduled release. CRs identified as having "Routine" priority will be worked as time, schedule, and resources permit.

CRs identified as having "Urgent" priority represent changes that don't have to be treated as an emergency, but may have to be corrected before the next scheduled release. If a system shutdown is immediately imminent or users suddenly lose a needed capability, the Emergency process will be followed.

CRs identified as having "Mandated" priority represent changes required by legislation or an error causing operations problems for which a workaround or alternative exists that ameliorates the problem on at least a temporary basis. "Mandated" priority CRs will be worked in hopes of including them in the earliest convenient Release or Version so that the need for a "work-around" is eliminated.

"Emergency" priority CRs always take precedence as they represent a loss of service for a large number of users or a potentially mission-critical error for which there exists no "work-around." CRs identified as "Emergency" priority move to the head of the line and often receive expedited CCB review and approval. This Emergency Change Process is a tailored version of the Enterprise Change Management Process, with the CCB function compressed for quick reaction, and with the change given the highest priority for development, testing, and implementation. How much favorable attention the change receives will be determined by the CCB chair, and will depend on the nature and likely impact of the problem if un-addressed. This tailored process is illustrated graphically on page 7 of this document. Please note that it permits the ACFO-FS to authorize a change, with CCB approval.

Data Fix Change Process

Data Fix CRs do require CCB approval, after they are approved or disapproved by ACFO-FS. The CM logs the Data Fix into the CR Database, notifies the CPAIS Help Desk, and tracks it to closure to maintain a historical record of changes to CPAIS. Some Data Fixes may be identified as "Emergencies"—when this is the case the Data Fix CR is processed according to the Emergency Change Process.

Data Fixes should contain documentation showing the changes made and proof of testing that verified the successful completion of the change. CM will request this documentation and validation before revising a Data Fix CR's status to "closed."

The Data Fix Process is graphically shown on page 6 of this document with the exceptions noted.

CPAIS Change Request Process

Request for Change to CPAIS Help Desk (Defects, Minor Problems and Data Fixes)

Request for change initiated by Program Areas (New Functionality and Major Enhancements, Data Conversions, Change Orders)

CPAIS Help Desk forward Help Desk Ticket to System Support Team (SST)

SST analyzes Help Desk Ticket or Program Area request for change

CR Required? — No / Yes

CM reviews CR and notifies Help Desk

SST provides adequate detail on CR

CCB Review and Approval

SST, developers and analysts review and provide requirements, design and develop solution (except for data fix)

CM establish baseline (except for data fix)

CPAIS QA team conduct integration and system test in QA Environment (except for data fix)

Pass? — No / Yes

QA/User Acceptance Testing in QA Environment

Pass? — Yes

CM review and validation (Checklist)

Approval from ACFO-FS & OPPM-PMD

Configurable items and system documentation updated (except for data fix).

Release the application or execute data fix.

CM notify CCB and Help Desk of approval to close CR

CPAIS Emergency Change Process

```
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ Emergency problem   │      │ System Support Team │      │ System Support Team │
│ reported to CPAIS   │─────▶│ researches and      │─────▶│ coordinates approach│
│ Help Desk           │      │ diagnoses problem,  │      │ on impact to others │
│                     │      │ proposes fix        │      │                     │
└─────────────────────┘      └─────────────────────┘      └─────────────────────┘
                                                                     │
                                   ┌─────────────────────┐           │
                                   │ CCB and ACFO-FS     │           │
                                   │ Approval            │◀──────────┘
                                   │ (see Note 1)        │
                                   └─────────────────────┘
                                             │
                        ┌────────────────────┘
                        ▼
           ┌─────────────────────┐
  ┌───────▶│ Developer codes and │
  │        │ Unit Tests the      │
  │        │ proposed fix        │
  │        └─────────────────────┘
  │                  │
  │                  ▼
  │      ◇─────────◇  ┌─────────────────────┐
  ◀──────  Fail   ◀───│ Developer performs  │
  │      ◇─────────◇  │ Integration/System  │
  │                   │ Testing of fix      │
  │                   └─────────────────────┘
  │                             │
  │                             ▼
  │                   ┌─────────────────────┐
  │                   │ CM builds and       │
  │                   │ migrates fix        │
  │                   └─────────────────────┘
  │                             │
  │                             ▼
  │      ◇─────────◇  ┌─────────────────────┐
  ◀──────  Fail   ◀───│ CM validation       │
         ◇─────────◇  └─────────────────────┘
                                │
                                ▼
                      ┌─────────────────────┐
                      │ Baseline created    │
                      │ and migrated        │
                      └─────────────────────┘
                                │
                                ▼
                      ┌─────────────────────┐
                      │ Submit CR to ACFO-FS│
                      │ and the CM for      │
                      │ recordation and CCB │
                      │ approval            │
                      └─────────────────────┘
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Note 1: ACFO-FS approval is needed before any change is made when the emergency occurs during normal business hours; when the problem arises after normal business hours changes may be made to address the emergency but ADCF-FS, the CM and the CCB must be contacted immediately the next business day so that a CR may be created and processed.