Change Control Process  
for  
<Project Name>

Version 1.0 draft 1

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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
|  |  | initial draft | 1.0 draft 1 |
|  |  |  |  |

# Purpose and Scope

## Purpose

This document describes the process that is to be used for requesting and managing changes to work products created or maintained by the members of <project>. This process will facilitate communication about requested changes among the stakeholders of <project>, provide a common process for resolving requested changes and reported problems, and reduce the uncertainty around the existence, state, and outcome of a change that has been requested in a work product.

## Scope

Any stakeholder of <project> can submit the following types of issues to the change control system:

* requests for requirements changes (additions, deletions, modifications, deferrals) in software currently under development
* reports of problems in current production or beta test systems
* requests for enhancements in current production systems
* requests for new development projects

This change control process applies to baselined work products created or managed by the members of the <project>, including:

* software that has been released to production or is in beta test
* requirements specifications for <project>
* group procedures and processes
* user and technical documentation

The following work product classes are exempted from this change control process:

* work products that are still under development, except for requirements changes requested in new projects
* interim or temporary work products created during the course of a project
* any work products intended for individual use only

## Definitions

|  |  |
| --- | --- |
| **Term** | **Definition** |
| issue | An item that someone has submitted to the change control system that describes a software problem, a requested enhancement, a proposed change in requirements for a product under development, or a new project being proposed. |
| stakeholder | Someone who is affected by or who can influence the project. |

# Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **Description** |
| **CCB Chair** | Chairperson of the change control board; generally has final decision-making authority if the CCB does not reach agreement; identifies the Evaluator and the Modifier for each change request |
| **Change Control Board** | The group that decides to approve or reject proposed changes for a specific project |
| **Evaluator** | Someone whom the CCB Chair asks to analyze the impact of a proposed change |
| **Modifier** | Someone responsible for making changes in a work product in response to an approved change request |
| **Originator** | Someone who submits a new change request |
| **Request Receiver** | The person who initially receives newly submitted change requests |
| **Verifier** | Someone who determines whether the change was made correctly |

# Change Request States

A requested change will pass through several possible states during its life. These states, and the criteria for moving from one state to another, are depicted in the state-transition diagram in Figure 1 and described in the Possible States table. Any time a state is changed, the change control tool will send an email notification automatically to the issue Originator, the issue Modifier, and/or the CCB Chair, as specified below.

|  |  |
| --- | --- |
| **State** | **Meaning** |
| **Approved** | The CCB decided to implement the request and allocated it to a specific future build or product release. The CCB Chair has assigned a Modifier. |
| **Canceled** | The Originator or someone else decided to cancel an approved change. |
| **Change Made** | The Modifier has completed implementing the requested change. |
| **Closed** | The change made has been verified (if required), the modified work products have been installed, and the request is now completed. |
| **Evaluated** | The Evaluator has performed an impact analysis of the request. |
| **Rejected** | The CCB decided not to implement the requested change. |
| **Submitted** | The Originator has submitted a new issue to the change control system. |
| **Verified** | The Verifier has confirmed that the modifications in affected work products were made correctly. |

change was canceled; back out of modifications

CCB decided not to make the change

Rejected

Modifier saved modified work products

CCB decided to make the change, allocated it to a release, and assigned a Modifier

Modifier made the change and requested verification

Originator submitted a change request

Evaluator performed impact analysis

Verifier has confirmed the change

verification failed

no verification required; Modifier saved modified work products

change was canceled; back out of modifications

change was canceled; back out of modifications

Canceled

Closed

Verified

Change Made

Approved

Evaluated

Submitted

**Figure 1. State-Transition Diagram for Issue States**

# Entry Criteria

1. Change control board is established for the project.
2. Baselined work products exist.
3. The Originator has submitted a valid issue or change request with all necessary information to the CCB Chair.
4. The change control tool sets the issue’s initial status to Submitted.

# Tasks

## Evaluate change request

1. The CCB Chair assigns an Evaluator.
2. The Evaluator assesses the issue as to feasibility, whether it really pertains to the indicated project, whether a reported problem can be reproduced, an estimate of the labor hours needed to implement the change, and so on. For a requirement change, use the Impact Analysis Checklist for Requirements Changes, the Effort Estimation Worksheet for a Requirement Change, and the Impact Analysis Report Template. Change status to Evaluated.

## Evaluate change request

1. The CCB decides whether the requested change should be made (or the reported problem fixed) at this time, at some point in the future, or not at all. Input should be solicited from others potentially affected by the change before making the decision.
2. If the change was accepted, the CCB Chair assigns a Modifier, sets the status to Approved, enters any explanation in the Response attribute, and schedules the work. The Project Manager negotiates any necessary changes in project commitments with affected stakeholders. Tool sends email to the assigned Modifier and the Originator.
3. If the change was rejected, the CCB Chair sets the status to Rejected and enters an explanation of why in the Response attribute. Tool sends email to the Originator and CCB Chair.
4. The CCB Chair and the Originator determine whether formal verification of the change will be required, following the procedure in the **Verification** section. If so, they select the verification method to be used and the CCB Chair assigns a Verifier.

## Implement the change

1. The Modifier makes the necessary changes in the affected work products and notifies any other affected parties if corresponding changes need to be made, such as user documentation, help screens, and tests.
2. The Project Manager updates the project plans, task lists, and schedules to reflect the impact of the change on project work remaining to be done. The Project Manager revises any task dependencies as necessary.
3. If it becomes apparent during the work that the requested change is not feasible after all, the Modifier notifies the CCB Chair, who may then set the status to Canceled. The Modifier backs out of any modifications made, restoring the work products to their previous baseline. Tool sends email to the Originator, CCB Chair, Modifier, and Project Manager.
4. When the change is completed, the Modifier sets the status to Change Made, updates the issue in the database with appropriate notes in the Response attribute, and enters the hours of effort that were required to make the change in the Actual Hours attribute. Tool sends email to the Originator and CCB Chair.

## Verify the change

1. The Modifier notifies the Originator and Verifier (if one was assigned) that the change has been made and makes all modified work products available to the people responsible for verification.
2. The Verifier performs the agreed-upon verification steps.
3. If verification is successful, the Verifier sets the status to Verified. Tool sends email to the Originator and Modifier.
4. If verification is not successful, the Verifier sets the status back to Approved and describes the problem in the Response attribute. Tool sends email to the Originator and Modifier. The process resumes with Task #.
5. For a problem report issue or an enhancement request issue, the Modifier installs the modified work product as appropriate and updates the product baseline. For requirements changes, the Modifier updates version numbers on all modified work products per the project’s version control procedure, checks them back into the version control system, updates requirements traceability information and requirements status attributes as necessary, and updates the requirements baseline.
6. The Modifier sets the status to Closed. Tool sends email to the Originator and CCB Chair.

# Exit Criteria

1. The status of the request is either Rejected or Closed.
2. The modified work products have been correctly installed into the appropriate locations.
3. The Originator, CCB Chair, and Project Manager have been notified of the current status.
4. Pertinent requirements traceability information has been updated.

# Change Control Status Reporting

The CCB Chair generates a report at the end of each month summarizing the status of the contents of the change control database. These reports identify all status changes made in the previous month, list the status of all change requests that currently have a status other than Rejected or Closed, and indicate the level of change activity. The project leadership team reviews these reports to determine whether any corrective actions are necessary.

# Appendix: Attributes Stored for Each Issue

|  |  |  |
| --- | --- | --- |
| **Field** | **How Set** | **Contents** |
| Actual Hours | Modifier | Actual labor hours of effort needed to implement the change. |
| Description | Originator | Free-form text description of the change being requested. This cannot be changed after it is entered. If reporting a problem, enter the exact error message text observed here. |
| Date Submitted | System | Date this issue was submitted to the tool. |
| Date Updated | System | Date this issue was most recently updated. |
| Estimated Hours | Modifier | Estimated labor hours of effort needed to implement the change. |
| Implementation Priority | CCB Chair | Relative importance of making the change: Low (default), Medium, High. |
| Issue ID | System | Sequence number assigned to the issue. |
| Issue Type | Originator | Type of change request being created: Problem, Enhancement, Requirement Change, New Project. |
| Modifier | CCB Chair | Person who is assigned responsibility for implementing the change. |
| Originator | Originator | Originator’s name. |
| Originator Email | Originator | Originator’s email address. |
| Originator Phone | Originator | Originator’s phone number. |
| Originator Priority | Originator | Originator’s relative importance of the change: Low, Medium, High. |
| Planned Release | CCB Chair | Product release number for which this approved change is scheduled, determined by CCB. |
| Product | Originator | Name of the product or project in which a change is being requested or a problem reported. |
| Problem Severity | Originator | For a problem report, set severity of the change (see Table 1). Use N/A if this issue is not a problem report. |
| Response | CCB Chair, Modifier | Free-form text of responses made to the change request. Multiple responses can be made over time. Do not change existing responses. |
| Status | Originator, Modifier | Update current status of the change request as it moves through the states described in the **Change Request Status** section. Date of status changes and name of user making the update are shown automatically. |
| Title | Originator | One-line description of the issue. |
| Verifier | CCB Chair | Name of individual who is responsible for verifying that changes were made correctly. |

**Table 1. Problem Severity Descriptions.**

|  |  |
| --- | --- |
| **Severity** | **Examples** |
| Minor | Cosmetic problem, usability improvement, unclear error messages; customer can live with the problem (default) |
| Major | Problem adversely affects product functioning, but a workaround is available; customer will be annoyed; serious usability impairment; problem blocks some testing |
| Critical | Product does not function at all or crashes; the wrong results are generated; further testing of the application is not possible |
| Emergency | Anything that requires a change to be made immediately, bypassing the change control process temporarily |