



CoNNeCT

Configuration Management

CM / CMTS Process Overview

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Table of Contents



Topic	Page #
Purpose of Presentation Package	3
CM Top Level Guidelines	4
CM Controlling Documents	5 – 6
CM Contact Information	7
Signatory List	8 - 9
Document, CR and Drawing Process/Flow	10 - 15
Common Misconceptions	16 – 18
Digital Signatures	19 – 20
Retrieving Word Files	21



Purpose of Presentation Package



◆ Issue: Execution of CM Can Be Improved

- There has been miscommunication on how to appropriately utilize the CM function, resulting in the inefficient use of CoNNeCT personnel's time, both CM and rest of team.

◆ Complaints heard by CM personnel:

- No one likes, or has the time, to follow CM guidelines
- It takes too long
- Doesn't fit their schedule
- The process is not how they did it on other projects

◆ CM Obstacles:

- The CoNNeCT Team does not always follow established processes
 - This has caused CM to continually help the users go around the established procedures "just this once"
- The discussions / presentations / procedures were never flowed down (read & understood) to subordinates that are actually doing the work
- Personnel were regularly added and removed from the project without CMs knowledge, and apparently without any transfer of CM guidelines by their predecessors or leads.

◆ Effect - Results:

- There is not one system that everyone follows, so that just adds more time to the CoNNeCT team member's daily efforts.



CM Top Level Guidelines



◆ Recommendations:

- Read the established plans and guidelines.
 - Configuration Management Plan: GRC-CONN-PLAN-0002 Rev. A
 - Configuration Management Tracking System (CMTS) User's Guide, GRC-CONN-DOC-0415 Rev. – **(Revision A in process - scheduled for release beginning of February)**
- If you're unsure of how to process something contact the CM team at connectcm@zin-tech.com.
- Work with the CM master version files – don't work off your hard drive once a document is submitted to CM for control.
- Use established CM forms and templates - Don't create your own.
- A document isn't released for use until all signatures, including CM, are on the document.

◆ Summary:

- The purpose of having CM is to ensure the As-Built documentation accurately depicts CoNNeCT Hardware / Software that is built, assembled, tested and delivered.
- Without accurate documentation it is difficult to know why a piece of hardware works or doesn't work.



CM Controlling Documents



- ◆ **Two primary CM documents are approved and released. They were generated to assist the CoNNeCT Team in understanding and following the required processes for generating, reviewing, approving and releasing documentation.**
- ◆ **Configuration Management Plan: GRC-CONN-PLAN-0002 Rev. A**
 - Details Flow Charts for processing documentation
 - Drawings
 - Documents
 - RDWs
 - Identifies signatories by category (CM Plan will be updated with Project Office direction)
- ◆ **Configuration Management Tracking System (CMTS) User's Guide: GRC-CONN-DOC-0415 Rev. – (Revision A in process)**
 - Provides detailed instructions on:
 - How to Log into CMTS
 - Overview of the CMTS Main Page
 - Description of the Main Tree
 - Viewing the Contents of a Folder
 - Arranging the Folder Columns



CM Controlling Documents – cont.



◆ Configuration Management Tracking System (CMTS) User's Guide:

- Typical CM Tasks (Users)
 - Specifying the Working Directory
 - Obtaining a file
 - Submitting a New Request
 - Continuing a CM Request
 - Sending Email
 - Simple Search
 - Creating a Change Request (CR)
- Changing Passwords
- Accepting CMT Certification
- Logging off of the System
- Troubleshooting
 - Login Window does not appear
 - Microsoft .Net Framework error
 - Security certificate message



CM Contact Information



- ◆ **CM created an email site for the purpose of providing the CoNeCT Team with access to everyone on the CM Team.**
 - Use this site to communicate with the CM team
 - Send inquires and ask questions
 - Request a number (DOC, CR, RDW Memo , As-Run, etc)
- ◆ **The CM email address: connectcm@zin-tech.com**
- ◆ **Configuration Management Tracking System (CMTS):**
 - CMTS is the tool CM uses to configuration manage the CoNeCT project documentation.
 - CMTS is the place for the CoNeCT team to drop any project “Controlled” documentation for routing review and approval signatures.
 - Document / Drawing / Process Plan / CR / RDW, etc
 - CMTS also is for submitting project “Managed” documentation generated by others (JAXA, ISS, GSFC, etc) for archiving
- ◆ **CMTS can be logged in to at: <https://cmt.grc.nasa.gov>**
- ◆ **A list of “Frequently Asked Questions” with answers, will be added to the CMTS homepage to assist users.**



Signatory List

Table 4-1 of CM Plan



Document Type	Signature List	Document Type	Signature List
Acceptance Data Package	Author S & MA WBS Lead Chief Engineer (System Level 3 only) Project Manager (System Level 3 only)	Process Plans	Manufacturing (Author) Avionics Lead (or) Mechanical Lead S & MA CM
Assembly Procedure	Author Manufacturing S & MA WBS 5.0 Lead	Reports - Analyses	Author WBS Lead DLE
Plans - Programmatic	Author WBS Lead(s), as applicable Chief Engineer Project Manager	Reports -Tests	Author WBS Lead DLE
Plans - Test	Author Test Lead WBS Lead S & MA Project Manager (System Level 3 Only)	Safety Data Package	Author S & MA Lead Code Q Team Lead (DLE) Independent Safety Review Project Manager
Procedures - Tests, Inspections, Demonstrations	Author S & MA SE & I Lead (System Level 3 Only) AI & T (Tests or Demonstration on Flight System Only) WBS Lead PI -(Radios Only)	Subsystem Requirements, Including ICDs	Author Subsystem Lead WBS Lead Project Manager

CM IS SIGNATORY ON ALL DOCUMENTS



Signatory List (con't)

Table 4-1 of CM Plan



Document Type	Signature List
System Level Requirements	Author All WBS Leads PI Chief Engineer Project Manager
Trees, Lists, Miscellaneous	Author WBS Lead CM
Verification Closure Notice	Author Responsible Engineer V & V Lead
Work Instructions	Author Manufacturing AI & T Lead

Signatures can be tailored as necessary, though only a single author is permitted.

WBS Lead is generally the WBS Lead of the author. Additional WBS Leads, if relevant, may be included at the author's discretion, though the goal is to minimize the number of signatories.

CM IS SIGNATORY ON ALL DOCUMENTS



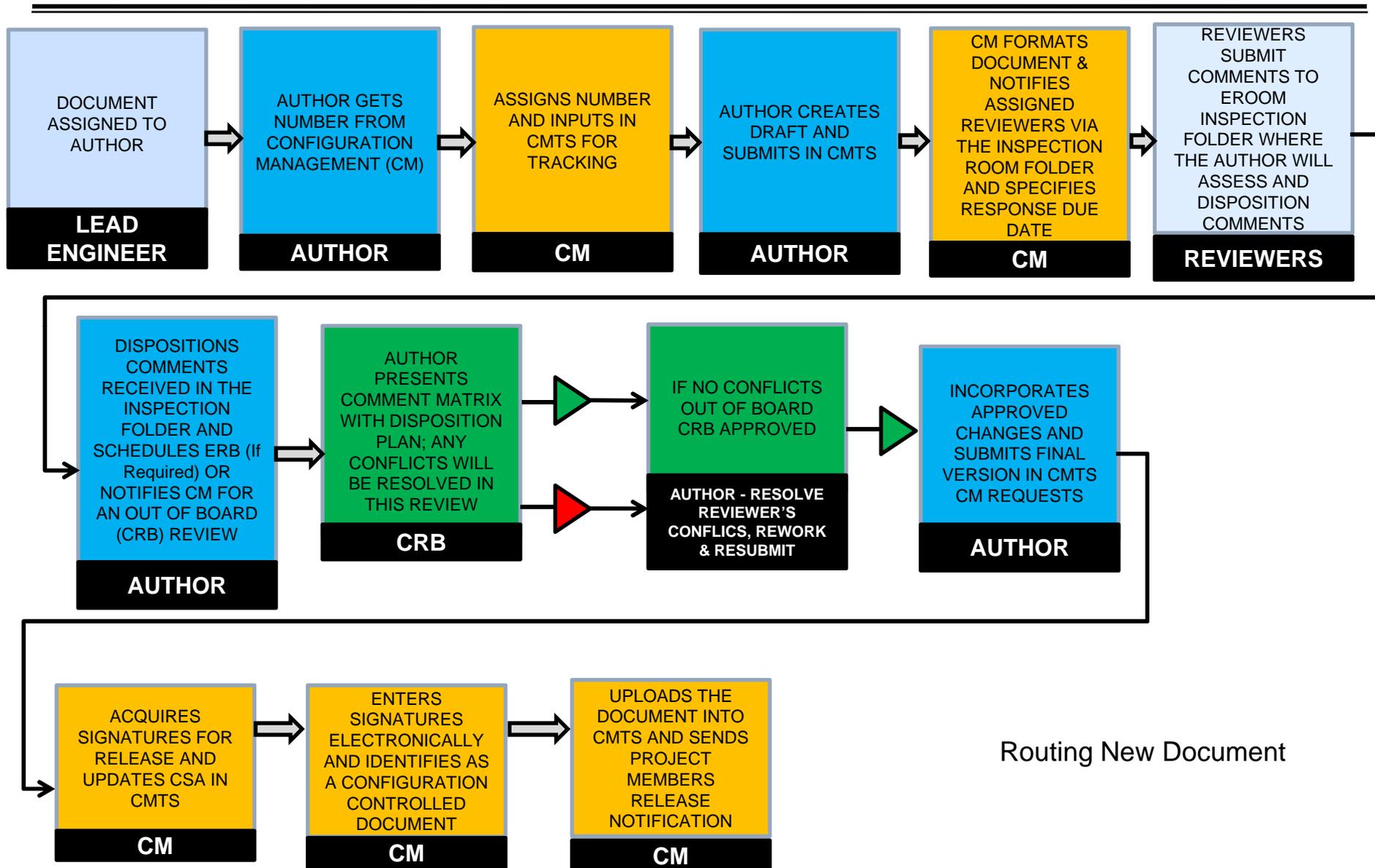
Document Flow Chart



- ◆ The Flow on the following Chart shows the normal process for documents.
- ◆ **IMPORTANT - A document is not Released for Project use until all signatures, including CM's, are applied and a release issued by CM.**
 - This has not been happening on many documents signed during testing.
 - Many Final As-Run test data received in CM have the original signed pages stapled in the document without any CM release signature.
- ◆ **Once submitted to CM for processing, ALL changes MUST be made to the CM Master, not to any other version the Author may have.**
- ◆ **During the Sign-off process:**
 - Signatories can determine and (propose to the Author) minor changes and still sign without CM having to reprocess the document for signatures.
 - CM has set up a signature page separate from the document in review, so the document can be revised independent of the signature page.



New Document Routing



Routing New Document



Change Request Process for Documents



◆ Flow chart on next slide

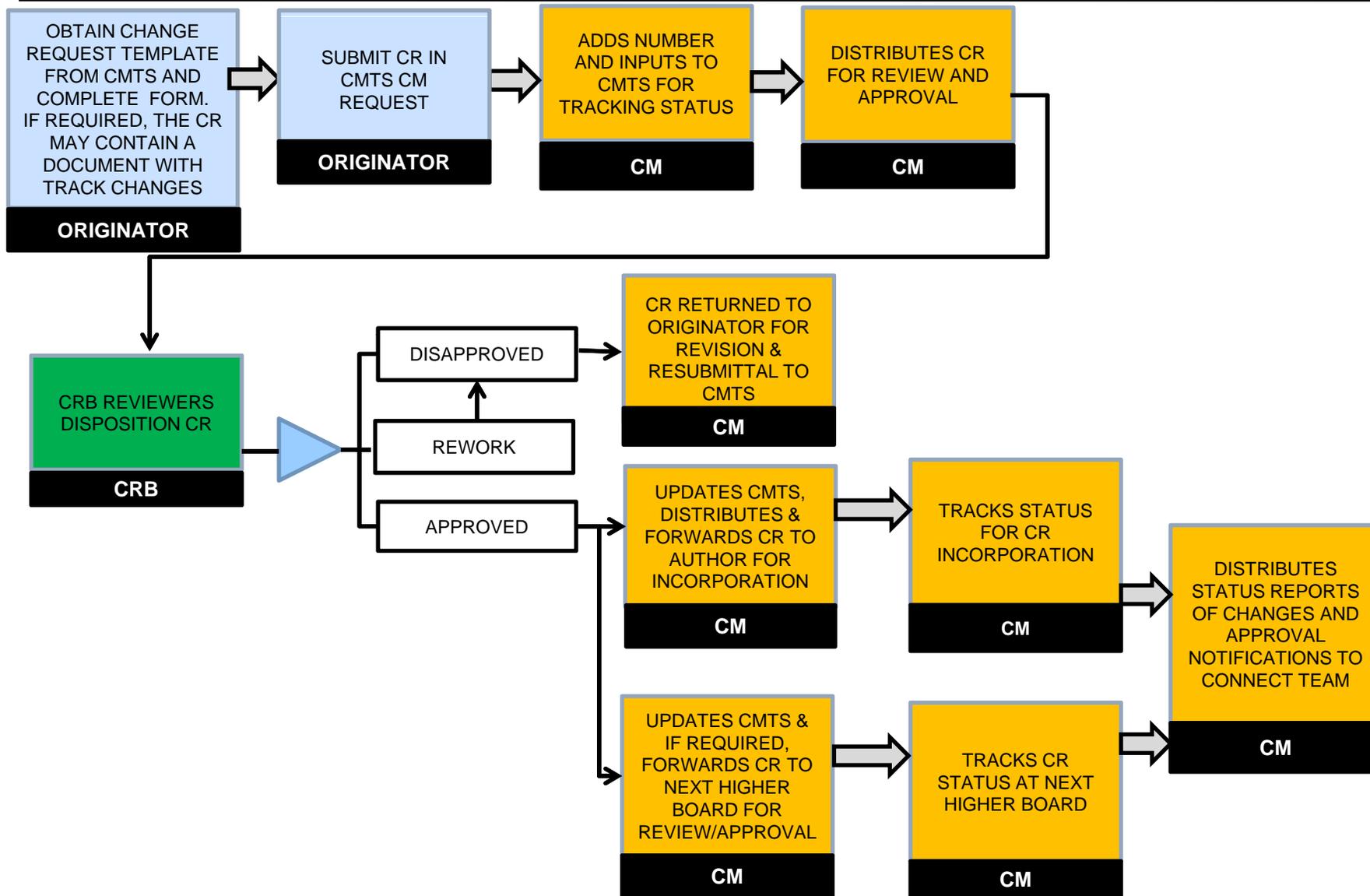
- After CR is approved the initiator submits the revised document in CMTS as a CM request
 - For most Documents – CRs have an attached Track Change Document, that when accepted, becomes the next revision
- CM sets document up to receive Electronic Signatures, and notifies signatories that the changed item is ready for their review and signature.
- When all signatures are received, CM signs cover sheet and officially releases the approved document by entering the new revision into CMTS

◆ Variations for obtaining signatures

- There are times when a signatory cannot apply their electronic signature
 - CM will accept a faxed signature if necessary, but this should not be a common practice.
 - There are also meetings held where all the required signatories sign
- CM needs ALL signature pages when not following electronic signatures
 - The original signature page must be forwarded to CM
 - **Documents are NOT released until CM signs and releases for project use.**



Document Change Request Process





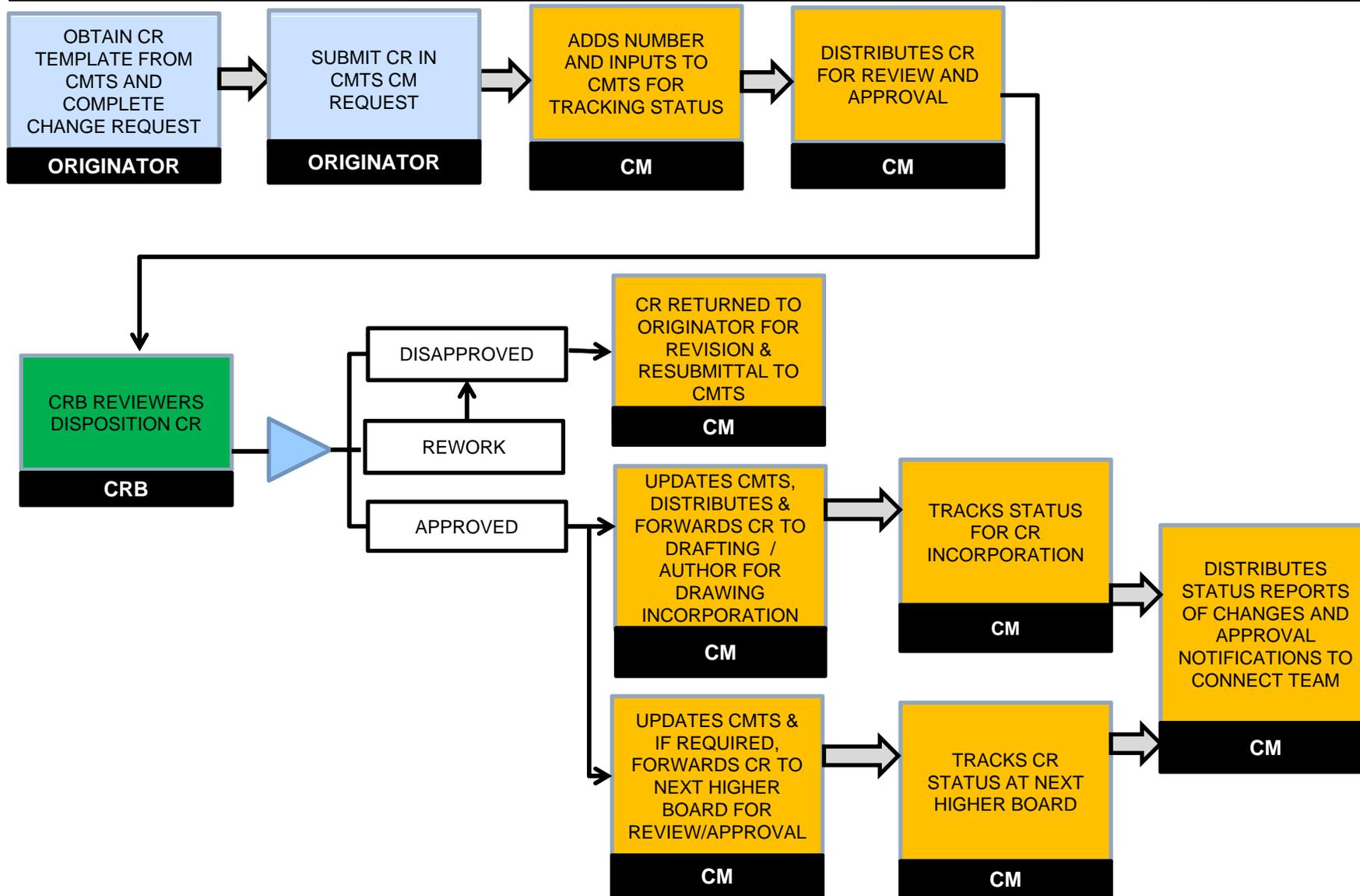
Change Request Process for Drawings



- ◆ **The Drawing Change Request process is different than for documents**
 - CM distributes drawing CRs from the CM email site, and requests review and concurrence on the change by a specified date.
 - When all concurrences are received - CM applies /s/ signatures on CR and releases.
 - CM has a follow-up meeting and obtains original signatures for all concurrences received.
 - Drafting incorporates approved change at some future time (Maximum 3 CRs) and provides CM with an updated drawing that gets reviewed and released by CM.
- ◆ **Instructions for completing CRs and RDWs are included in CMTS for the Team's use when creating a document.**
 - Instructions are in the same folder as the CR and RDW forms.



Drawing Change Request Process





Common Misconceptions



◆ A document is baselined at ERB

- False: An ERB may decide to approve the concept and proceed with the document or approve with changes, however the final document needs to be submitted to CM, and then the final document is processed through the signature cycle and baseline release.

◆ CM personnel determine signature list

- False: The CM Plan, Table 4-1, determines who should be on signature page. Modifications can be suggested by author or by reviewers during the inspection in eRoom, if tailoring is deemed to be in the best interests of the project.



Common Misconceptions (con't)



- ◆ **A signed CR against a document automatically makes the document a new Revision**
 - False: A signed CR tells the initiator the changes are approved. The initiator then incorporates the changes and submits a new revision document to CM, which allows the signatories to see the approved CR changes implemented and agree/sign that they have been implemented. Only then does CM release a new Revision of the document
 - CRs for CoNNeCT documents are processed with Track Changes on the document, which when accepted, will reflect the new revision of the document.

- ◆ **CM changes documents**
 - False: No content changes are made by CM. The CM personnel
 - imports the template styles into the document, as needed
 - corrects the title page and revision page
 - updates the paragraph referring to order of preference, based on the new words supplied by project management
 - runs spell check
 - enters approval and release signatures and dates



Common Misconceptions (con't)



◆ **CM monitors the inspection room and sends reminders**

- False: The CM team sets up the inspection room and sends out the notice. It is the authors responsibility to follow up if the required reviewers have not replied.
 - It is the authors responsibility to ensure all comments are addressed.
 - Any concerns the author has must be resolved directly with the individuals providing the comments.

◆ **To facilitate efficient CM processing:**

- Please be clear when submitting a CMTS request.
- Identify what CM is expected to do, and by when, with the request item.
 - The requestor needs to identify the pre-assigned document number if there is one.
 - Please get the latest templates from CMTS prior to starting on your document



Digital Signatures



- ◆ **Correctly save your electronic (digital) signature in eRoom:**
 - It is imperative that prior to applying your electronic signature:
Make sure you are logged into eRoom with the option –
— **“eRoom Plug-in software”** selected.
 - Without this option selected you will not be able to save your signature back to eRoom easily.



Digital Signatures



Electronic Signatures - Microsoft Internet Explorer provided by ZIN Technologies, Inc.

https://collaboration.grc.nasa.gov/eRoom/NASAEIf1/CoNeCTCDRDocuments/0_13e60

File Edit View Favorites Tools Help

Convert Select

Electronic Signatures

NOTICE: NO SBU data can be stored here!

My eRooms > (M) Inspection: CoNeCT Documents Review > Electronic Signatures

Electronic Signatures edit

a folder created by Keller, Jennifer on 3 Aug 10

This folder contains the documents waiting for electronic signatures for CM

Name	Modified	Owner	Size
<input type="checkbox"/> How to digitally sign doc in eRoom.pdf	6 Aug 10 2:43pm	Keller, Jennifer	277 k
<input type="checkbox"/> NASA Test Signature Page.pdf	6 Aug 10 10:33am	Brown, Helen C, Flash, Lindsey M, Keller, Jennifer, Malarik, Diane C, Over, Ann P, Laura Spayd	67 k
<input type="checkbox"/> Test Signature Page.pdf	5 Aug 10 8:42am	Jean Church, James Drury, Keller, Jennifer, Ed McCloskey, Robert Turk	53 k

create add file access notification

select all cut copy copy link paste delete mark read mark unread

Comments

add a comment take a vote

Be sure to click on the pencil to edit, apply, and save your digital signature.



Retrieving word version of a file



Document ID: GRC-CONN-PLAN-0044 Base -

Document Title: Assembly, Integration, and Test Plan

Search: [] Select Originator: [] OR Enter Originator: Andrew Sexton, J.

Status: Approved Revision: - Issue Date: 2/10/2010

Description: The purpose of this plan is to [a] describe the management roles and responsibilities for the assembly & integration phase of the CoNNeCT flight system (e.g., AI&T lead, Flight System Lead Engineer, Manufacturing, SMA, External Providers, others), [b] define the processes by which the assembly and integration activities will be controlled, and [c] describe testing that is planned to be performed during the course of assembly and integration. Separate, more detailed documents will be prepared to guide and control the assembly and integration processes at the implementation level. These documents may include detailed assembly and test procedures, detailed schedules, and similar execution level documents. Separate, more detailed documents will be prepared for all testing to be performed with the flight

Document Master Files Related CRs Related RDWs

Actions: Pick Related

File Name	Comments
GRC-CONN-PLAN-0044 Base - Assembly, Integration, and Test	

Ready Items 1-1 of 1. Page 1 of 1

Go to the Master Files tab to retrieve the word version of a file.