

Configuration Control

The “integrity” piece of Configuration Management

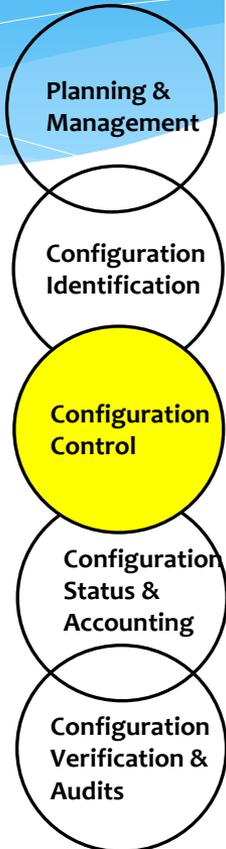
*Climate Data Records (CDR)
Principal Investigators (PI) Conference
National Climatic Data Center
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What Is Configuration Management? ⁽¹⁾

CM is a systematic approach to manage an end-item to ensure a product aligns with its intended requirement or need (1).

5 areas:

- * Planning and Management
- * Configuration Identification
- * Configuration Control
- * Configuration Status and Accounting
- * Configuration Verification and Audits



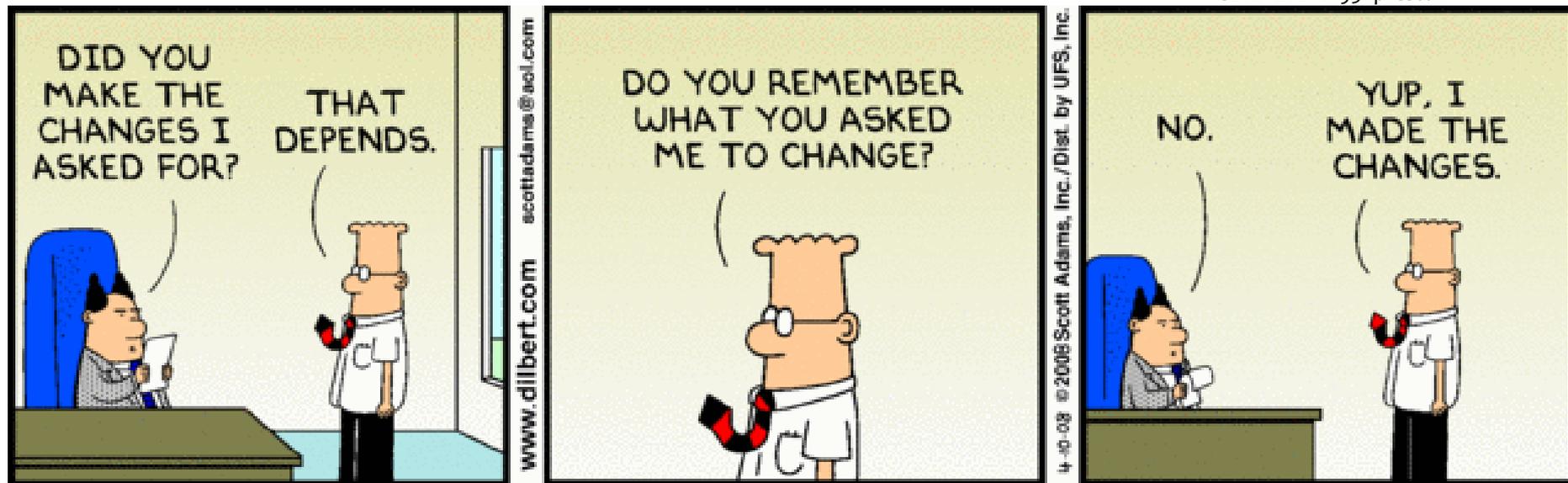
Configuration control is necessary for scientific defensibility

Configuration Control- aka Change Control

- * Baseline - A point in time when delivery made; changes freeze, configuration control begins.
- * The “line in the sand”
- * Provides Revision History
- * Provide assurance only approved changes made to the baseline
- * Change Request (CR) form is used
- * Approval of changes by the CDR Configuration Control Board (CCB)



Configuration control is necessary for scientific defensibility

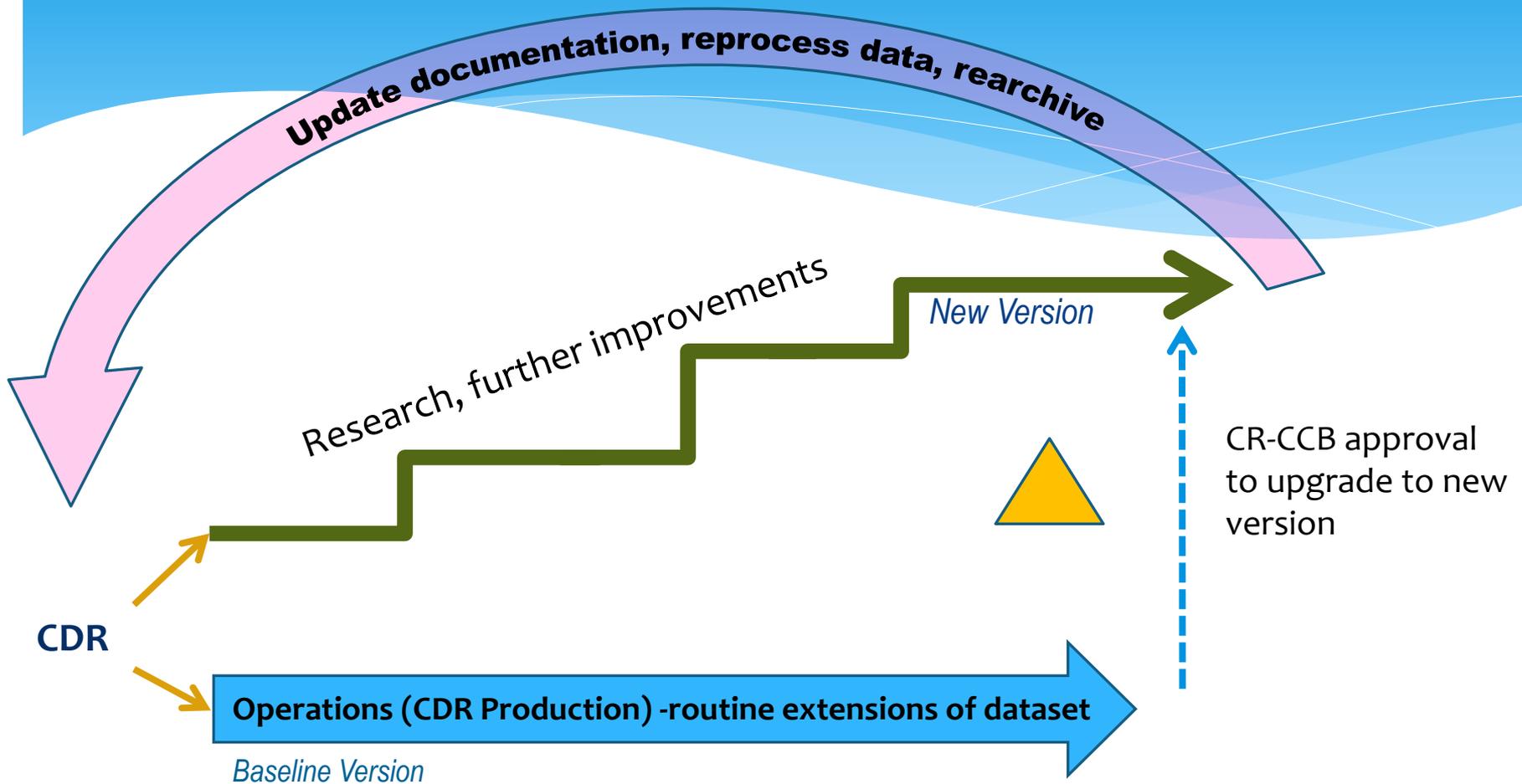


“All changes initiated by the Contractor shall be coordinated with the NOAA Subject Matter Expert in advance of making the changes.”

* Your delivered products = our configuration items

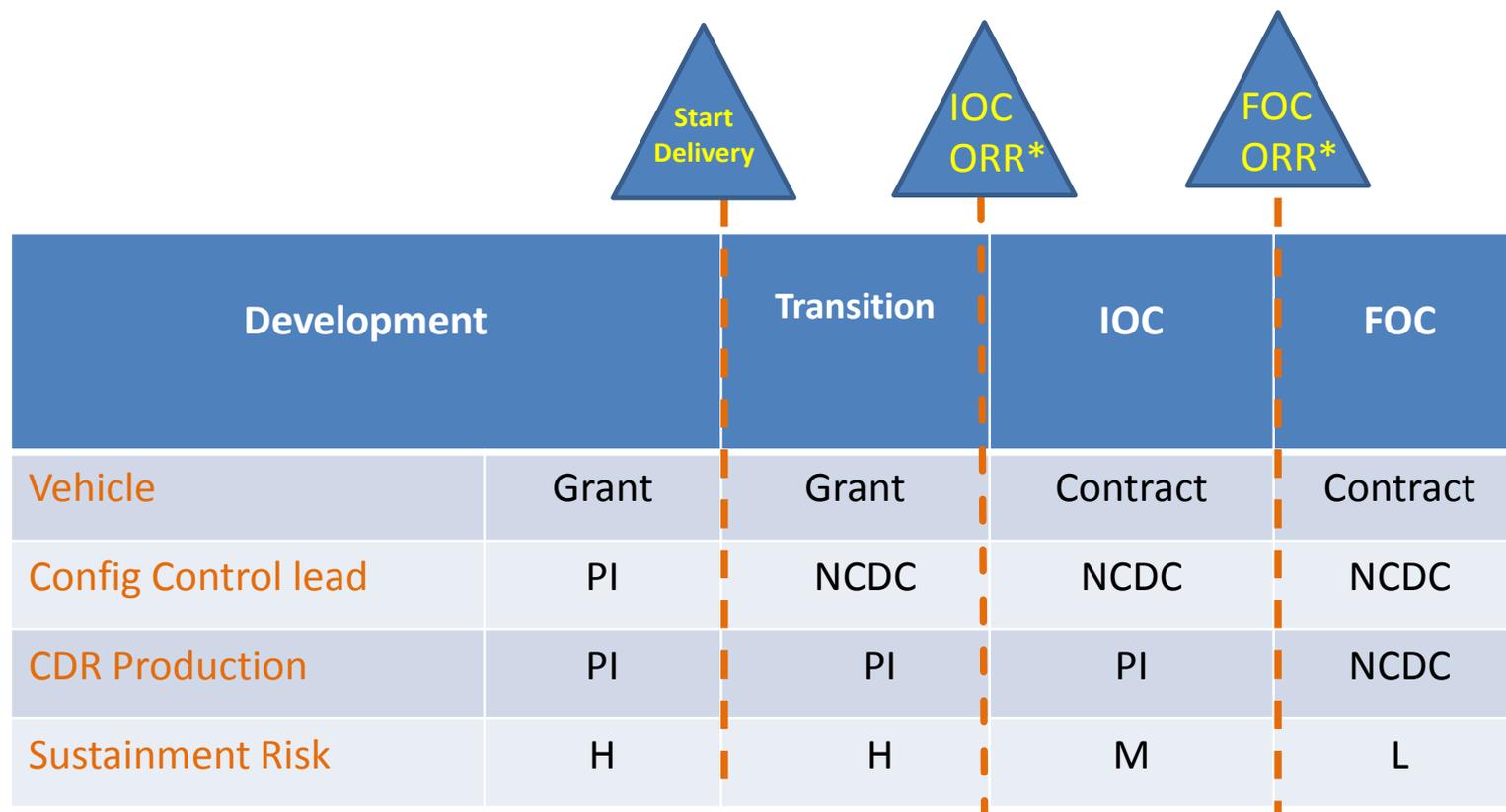
Configuration control is necessary for scientific defensibility

Delivery Cycle - IOC



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Transfer of Ownership



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*ORR- Operational Readiness Review

Working Together



- * Our process requires configuration control to maintain a change history and snapshot of current baseline.
- * Your delivered software and documentation become our configuration items
- * Continue developing, bug fixes but maintain baseline version intact

If baseline needs to be changed:

- * PI works with SMEs who create CR for program consideration
- * PI is stakeholder at the CCB

Configuration control is necessary for scientific defensibility

Takeaways

- * Configuration control is required for program integrity
- * You are key partner to our CCBs
- * Changes are expected to the research version; must maintain baseline version intact
- * We are here to help

Configuration control is necessary for scientific defensibility

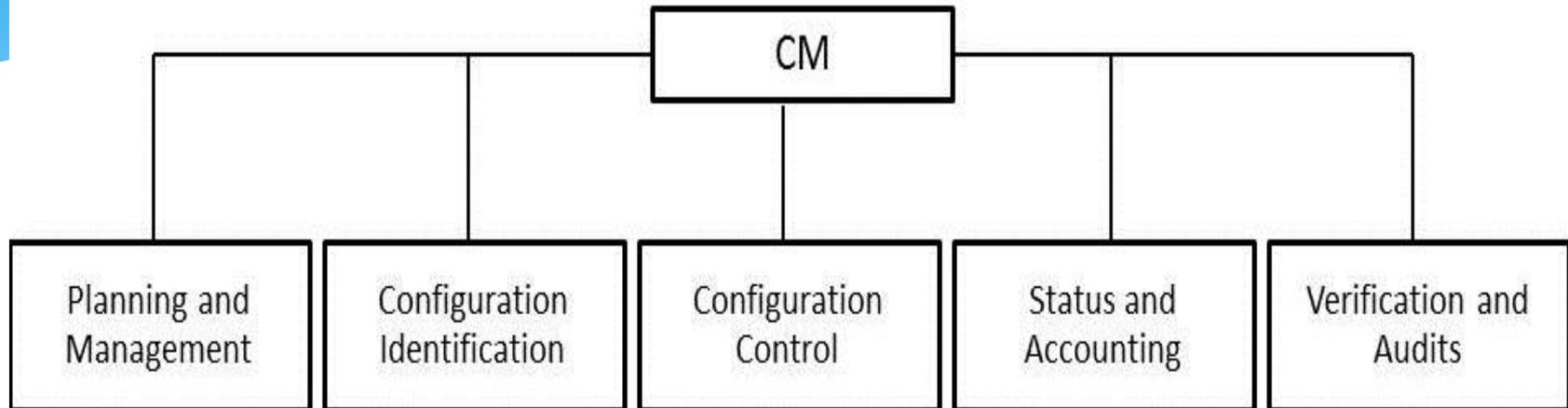
Backup Slides

What is Configuration Management?

- * A systematic approach to manage an end-item to ensure it aligns with its intended requirement or need (1)
- * 1950's - The term "configuration management, or "CM" began after a scandal in the defense industry. A fighter jet had evolved into a fighter-bomber because no one was watching/tracking or approving the changes to the design.
- * CM started as an engineering discipline but can also be found in Program Management, Quality and IT departments.
- * Today - CM is an internationally certifiable discipline existing in many industries besides government and defense: nuclear, health, transportation, commercial and private sector.

CM is a means and not an end in itself!

5 Areas of CM



- Ensure adequate resources are provided for CM
- Provide training on new and existing CM processes to users
- Produce a CM Plan and maintain compliance

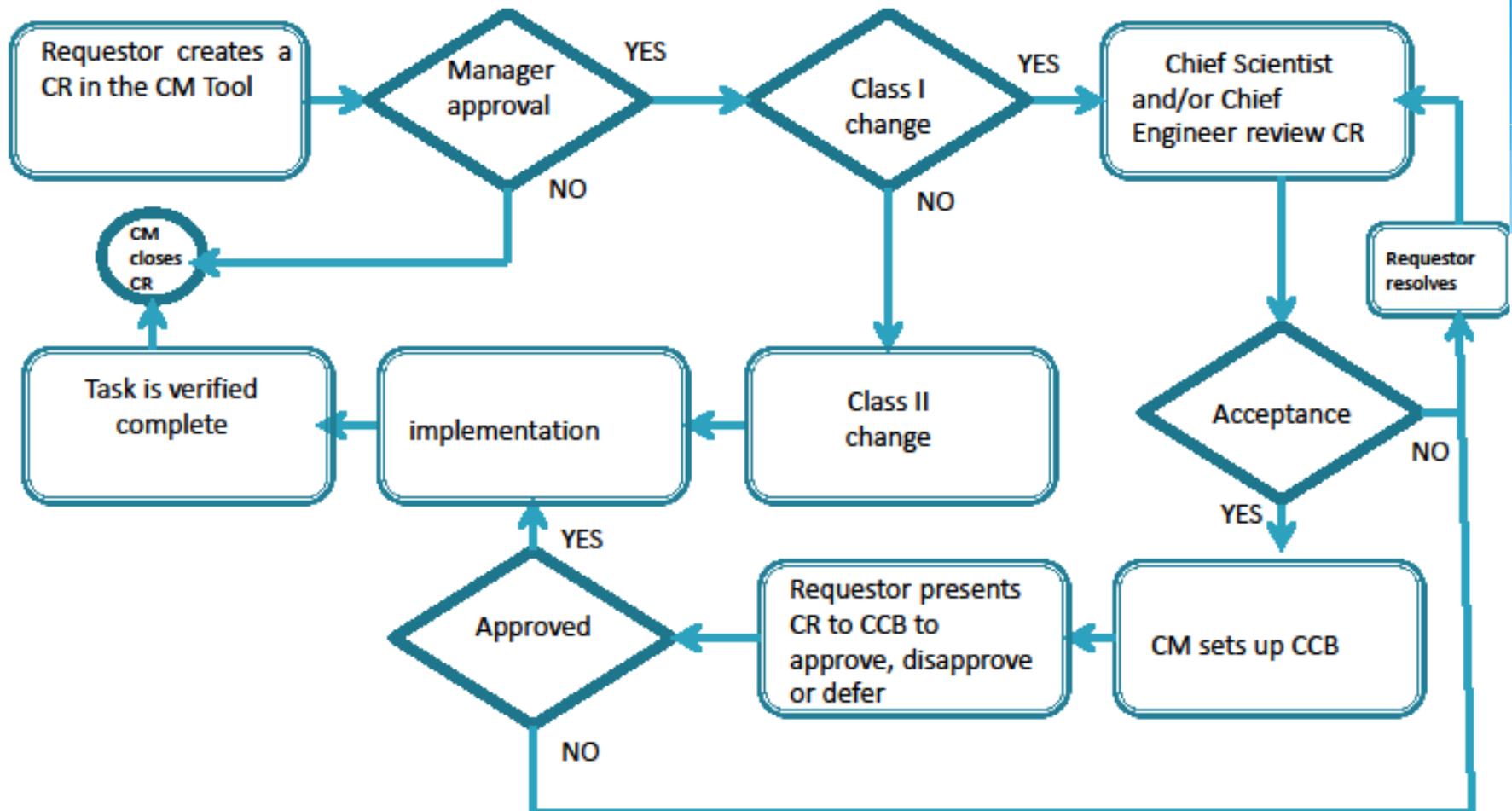
- Track CIs and technical data that reflect the approved baseline (s)
- Assign document numbers

- Receive and upload baselined documentation in the CM Library
- Conduct CCBs and formal CM reviews
- Receive and track new and modified software releases

- Process, track update and report CR status in CMDB
- Generate CR reports as requested.

- Conduct Assessments to see whether compliance to CM processes are being followed

Class I/II Change Request (CR) Process Flow



CDR PROGRAM		CDRP-CR-	
CHANGE REQUEST (CR)		Page 1 of -	
1 REQUESTER:	2 BRANCH/PROGRAM:	3 DIVISION:	
4 CR DATE:	5 CI IDENTIFIER:	6 CHANGE TYPE: <input type="checkbox"/> Temporary <input type="checkbox"/> Permanent <input type="checkbox"/> Anomaly	
7 THIS CHANGE REQUEST IS FOR:		8 PRIORITY	9 CLASS
<input type="checkbox"/> DOCUMENTATION	<input type="checkbox"/> DATA	<input type="checkbox"/> Low	<input type="checkbox"/> I
<input type="checkbox"/> HARDWARE	<input type="checkbox"/> SOFTWARE	<input type="checkbox"/> Med	<input type="checkbox"/> II
<input type="checkbox"/> PRODUCT	<input type="checkbox"/> PROGRAM	<input type="checkbox"/> High	<input type="checkbox"/> Fast Track
10 MANAGER:	11 MGR APPROVAL:	12 MGR COMMENTS:	
13 DESCRIPTION OF CHANGE:			
14 REASON FOR CHANGE:			
15 ATTACHMENTS? <input type="checkbox"/> Yes <input type="checkbox"/> No		16 IF YES, LIST ATTACHMENTS:	
COMPLETE BELOW FOR CLASS I CHANGE			
IMPACTS (use additional sheet(s) if necessary)			
17 RELATED CRs? <input type="checkbox"/> Yes <input type="checkbox"/> No	NUMBER	TITLE	REV
18 IDENTIFY IMPACTED CRs			
19 DOCUMENTS/DIAGRAMS			
20 SOFTWARE			
21 DESCRIBE ANY IMPACTS TO THE MASTER SCHEDULE IF CR APPROVED:			
22 DESCRIBE ANY IMPACTS TO THE MASTER SCHEDULE IF CR DISAPPROVED:			
23 DESCRIBE ANY ALTERNATE OPTIONS IF CHANGE IS NOT APPROVED:			
SCHEDULE			
24 EXPECTED START DATE:	25 EXPECTED COMPLETION DATE:		
26 COMMENTS:			
COST ESTIMATES			
27 APPX MANHOURS:	28 PURCHASE COST (if app):		
29 PROGRAM BASELINE CHANGE REQUIRED? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> UNKNOWN			
CM USE ONLY			
30 CCB CHAIR DISPOSITION <input type="checkbox"/> APPROVE <input type="checkbox"/> DISAPPROVE <input type="checkbox"/> DEFER		31 COMMENTS:	
32 CCB CHAIR SIGNATURE			
33 CCB DATE:	34 ACTIONS ASSIGNED? (Include with Minutes) <input type="checkbox"/> Yes <input type="checkbox"/> No		
35 DATE MINUTES DISTRIBUTED:	36 WHERE MINUTES STORED:		
37 CR CLOSURE DATE:	38 HOW VERIFIED CLOSED?		

References

- (1) Generic CM-Configuration Management Explained, Richard L. Ramage
- (2) Tech America ANSI EIA-649B, “The National Consensus for Configuration Management” is a commercially-produced standard available for \$130 at http://www.techstreet.com/standards/techamerica/eia_649_b?product_id=1800866. This commercial standard replaces the former DOD-MIL-STD 973, which is available free of charge.