

**Network Enterprise Domain
Software In-Service Support (SwISS) Plan
Version 1.1
6 August 2008**



**Network
Enterprise
Domain**

**Joint Tactical Radio System Network Enterprise Domain
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Table of Contents

1	SwISS Overview.....	9
1.1	Scope.....	10
1.2	Operating Definitions.....	10
2	Roles and Responsibilities	10
2.1	JPEO Configuration Management Requirements Board	10
2.2	Interoperability Control Working Group/Technical Working Group.....	10
2.3	JTRS Product Lines	10
2.4	NED Product Support Managers	11
3	NED SwISS Model.....	11
3.1	SwISS Process	12
4	SwISS Functional Areas	14
4.1	NED Engineering.....	14
4.1.1	Purpose.....	14
4.1.2	Scope.....	14
4.1.3	Responsibilities.....	14
4.1.3.1	Product Line Support	15
4.1.3.2	Problem Review Board.....	16
4.1.3.3	Draft NED Change Proposal.....	18
4.1.3.4	Impact Analysis	18
4.1.3.5	Interoperability Review	19
4.1.3.6	Update NED Change Proposal.....	19
4.1.3.7	Create NED Change Order	20
4.1.3.8	Manage Independent Validation and Verification.....	20
4.1.4	Interfaces.....	20
4.1.4.1	Relationship with NED Configuration Management.....	20
4.1.4.2	Relationship with NED Product Management.....	20
4.1.4.3	Relationship with NED Logistics	20
4.1.4.4	Relationship with JTRS Product Lines.....	20
4.1.4.5	Relationship with National Security Agency.....	21
4.1.4.6	Relationship with JPEO JTRS Technical Director	21
4.2	NED Configuration Management.....	21

4.2.1 Purpose..... 21

4.2.2 Scope..... 21

4.2.3 Responsibilities..... 21

 4.2.3.1 Change Process Initiation 21

 4.2.3.2 NCP Evaluation Process 22

 4.2.3.3 NED Configuration Control Board..... 23

 4.2.3.4 Release Management 25

 4.2.3.5 Software Distribution, Notification & Change Closure..... 25

 4.2.3.6 Configuration Status Accounting..... 26

4.2.4 Interfaces..... 27

 4.2.4.1 Relationship with NED Product Support Manager..... 27

 4.2.4.2 Relationship with NED Engineering 27

 4.2.4.3 Relationship with NED Logistics 27

 4.2.4.4 Relationship with the Information Repository..... 27

4.3 NED Product Management..... 28

 4.3.1 Purpose..... 28

 4.3.2 Scope..... 28

 4.3.3 Responsibilities..... 28

 4.3.4 Interfaces..... 28

 4.3.4.1 Relationship with the Procuring Contracting Officer 28

 4.3.4.2 Relationship with the Information Repository..... 29

 4.3.4.3 Relationship with NED Configuration Management..... 29

4.4 NED Logistics..... 29

 4.4.1 Purpose..... 29

 4.4.2 Scope..... 29

 4.4.3 Responsibilities..... 29

 4.4.3.1 GFE/GFI Identification..... 29

 4.4.4 GFE Maintenance and Modification..... 30

 4.4.4.1 GFE Maintenance 30

 4.4.4.2 GFE Modification 30

 4.4.5 Interfaces..... 30

 4.4.5.1 Relationship with NED Product Support Manager..... 30

4.4.5.2 Relationship with Configuration Management, Engineering, and Finance 30

4.4.5.3 Relationship with Defense Contract Management Agency 30

APPENDIX A: REFERENCES..... 31

APPENDIX B: ACRONYMS 32

APPENDIX C: SWISS PROCESS BASIC MODEL..... 35

APPENDIX D: GLOSSARY 36

Table of Figures

Figure 1.1 NED Product Life Cycle 9
Figure 3.1 NED SwISS Model..... 11
Figure 3.2 SwISS Process 13
Figure 4.1 Example of NED Baseline software and branch software 15
Figure 4.2 PRB Review process for NED Engineering..... 17
Figure 4.3 NCP Evaluation Procedure..... 23
Figure 4.4 CCB Decision Procedure..... 25
Figure 4.5 - CSA Activity Model 26

List of Tables

Table 1: Impact Analysis Process 19
Table 4-2 Information Collected and Reported via the NCP process..... 27

Executive Summary

The Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED) Software In-Service Support (SwISS) Plan defines the processes and responsibilities for post Formal Qualification Test (FQT) and sustainment of NED products. Products include baseline JTRS waveforms and Network Enterprise Services (NES) software applications. SwISS begins when the Government accepts a product and signs the DD Form 250 and ends when an end-of-service life decision or product retirement determination is made.

An over-arching NED SwISS Model was approved by the Joint Program Executive Officer (JPEO) for JTRS. It depicts the interfaces and linkages between the NED Program Office, the JPEO, JTRS Product Lines (PL), Information Repository (IR), and NED Software Product contractors. The model provides the flow for identification, prioritization and vetting of defects via Problem Reports (PR) and/or new requirements and baseline software changes via NED Change Proposals (NCP). SwISS activities in the center of the model include managing configuration baselines through NED Configuration Control Board (CCB) decisions, analysis and disposition of PRs, and archiving and distribution of updated products. The SwISS model is Government managed and contractor tasked.

The JTRS Software In-Service Support Process describes a detailed process flow of specific SwISS activities. Paragraph references in the flow are linked to functional areas (NED Engineering, NED Configuration Management, NED Product Management, and NED Logistics) for the activities within each activity block. Primary responsibilities of each functional area are outlined below.

NED Engineering participates in NED CCB activities, provides support to product lines, performs PR analysis, develops/evaluates NED NCPs, and manages or performs Independent Validation and Verification (IV&V) of updated NED products.

NED Configuration Management facilitates the SwISS process from end-to-end. Configuration baselines will be established and change control will be implemented through the CCB.

NED Product Management is the responsibility of the Product Support Managers (PSMs) who are involved in every facet of the SwISS process. The PSMs support the development and execution of contract actions and NED Change Orders, and act as the NED focal points with regard to PLs for assigned products.

NED Logistics manages Government Furnished Equipment/Government Furnished Information (GFE/GFI) for contracts, monitor GFE obsolescence, monitor configuration changes to assess and advise on impacts to GFE, and provide training packages and user manuals for network products.

Compliance with this Plan ensures software integrity and interoperability will be maintained for NED products.

1 SWISS Overview

The Joint Tactical Radio Systems (JTRS) Network Enterprise Domain (NED) Software In-Service Support (SwISS) Plan defines the processes and responsibilities for the defect correction, upgrade, and enhancement of NED products. Products include “baseline” JTRS waveforms and Network Enterprise Services (NES) software applications. SwISS begins when the Government accepts a product and signs the DD Form 250 and ends when an end-of-service life decision or product retirement determination is made. Figure 1.1 depicts the NED product life cycle.

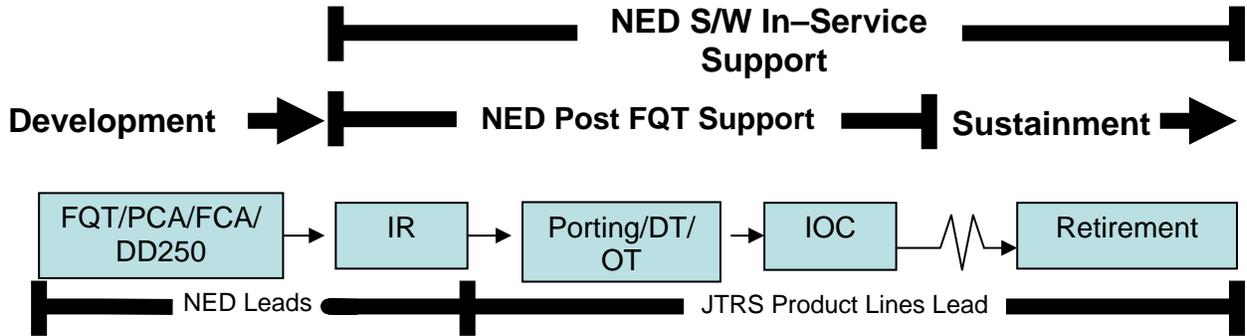


Figure 1.1 NED Product Life Cycle

Baseline products and documentation are maintained and released from the JTRS Information Repository (IR) to registered and certified users. The NED is responsible for the continued upgrades and enhancements, as required, of baseline waveforms and NES applications. NED will budget and fund defect corrections and upgrades for “baseline” waveforms and NES applications. Requirements for enhancements will be identified and funded through (1) The Joint Tactical Requirements Group (JTRG) and (2) The Joint Capabilities Integration and Development System (JCIDS)/Joint Requirements Oversight Council (JROC) process.

Sustainment of ported applications on JTRS Product Lines (PL) will be managed and funded by each respective program office.

NED Product baselines and changes will be maintained through a rigorous configuration management (CM) process applicable to software, firmware, documentation, test hardware, test and support equipment, training courseware, and manuals. The NED Configuration Control Board (CCB) is the senior board for establishing and maintaining the NED-level baseline for the JTRS program.

Methodologies are established for problem reporting from PL and Legacy Radio Communities as well as for the submittal of enhancements from the requirements community. Engineering analysis of Problem Reports (PR) will be accomplished by NED Engineering and boarded in a Problem Report Board (PRB). After a PR has been validated, a NED Change Proposal (NCP) is generated and an impact analysis is performed by NED functional areas. NCPs are reviewed in an Interoperability Control Working Group/Technical Working Group (ICWG/TWG). Recommendations for changes to baseline products will be reviewed by the NED CCB. Approved CCB changes will be implemented through a structured release management process to manage and record product updates. NED Change Orders (NCOs) will define the problem and requirements, estimated cost, schedule, and any certifications required that must be met as a

result of the solution. Contractors will execute NCOs, task orders, and modifications. The NED will oversee the contractor's efforts and conduct Independent Validation and Verification (IV&V) to ensure proper operation, interoperability, and security testing are performed. Updated products will be placed in the JTRS IR and PLs notified of availability.

1.1 Scope

This plan defines the SwISS process for defect correction, upgrades, and enhancements to baseline NED products. SwISS begins when the Government accepts a product and the DD Form 250 is signed and ends when an end-of-service life decision or product retirement determination is made. The plan is structured by functional areas (NED Engineering, NED Configuration Management, NED Product Management, and NED Logistics) and includes the roles and responsibilities of key decision makers, boards, working groups, and PLs.

1.2 Operating Definitions

Defect Corrections - Software maintenance required to fix bugs in NED baseline products.

Upgrades - Software maintenance required to improve an existing capability or functionality, e.g. moving an icon to a different screen on a product.

Enhancements – A new requirement or additional capability defined by changes to a product requiring development and additional funding.

NED Baseline Software - Software applications centrally managed by NED, stored in the JTRS IR, and available for porting and integration.

Branch Software – Ported version of a NED baseline product.

2 Roles and Responsibilities

This section describes the role of organizations that interface with the SwISS activities and describes relationships both internal and external to the NED Program Office .

2.1 JPEO Configuration Management Requirements Board

The JPEO Configuration Management Requirements Board (CMRB) will approve and adjudicate changes that affect JTRS-level parameters such as cost, schedule, and performance. Disagreements on whether PRs are NED baseline software issues or branch software issues will be adjudicated by the JPEO CMRB.

2.2 Interoperability Control Working Group/Technical Working Group

ICWG/TWGs are forums led by NED Engineering, and facilitated by NED CM, that are responsible for reviewing NCPs to determine how a reported problem or a new requirement can be resolved or met. Suggested membership includes NED, National Security Agency (NSA), PLs, and appropriate contractor. Each NED software product will have ICWG/TWG in place with appropriate membership for each.

2.3 JTRS Product Lines

Product Line Managers will accept and port baseline products. Issues with porting will be communicated to NED Engineering for assistance to determine whether the issue is a NED

baseline product problem or a branch software problem. Baseline product defects will be reported to NED through the CM toolset. Affected PL Engineering will participate in the NED PRBs, ICWG/TWG, and CCB as required.

2.4 NED Product Support Managers

Product Support Managers (PSMs) are involved in the SwISS process from the beginning to the end and are the NED focal points and interface with PLs for assigned products. PSMs provide management and oversight of contract task orders and modifications required for SwISS of NED products. In addition, PSMs maintain visibility of PRs by participation in PRBs; provide product knowledge and financial data to support engineering for NCP development; support ICWG/TWG, CCBs, and NCO development; support contracting modifications and task order negotiations; chair reviews with contractors; and ensure cost, schedule, and performance requirements are met.

3 NED SwISS Model

The NED SwISS Model in Figure 3.1 depicts the interfaces and linkages between the NED Program Office, JTRS JPEO, PLs, IR, and NED contractors.

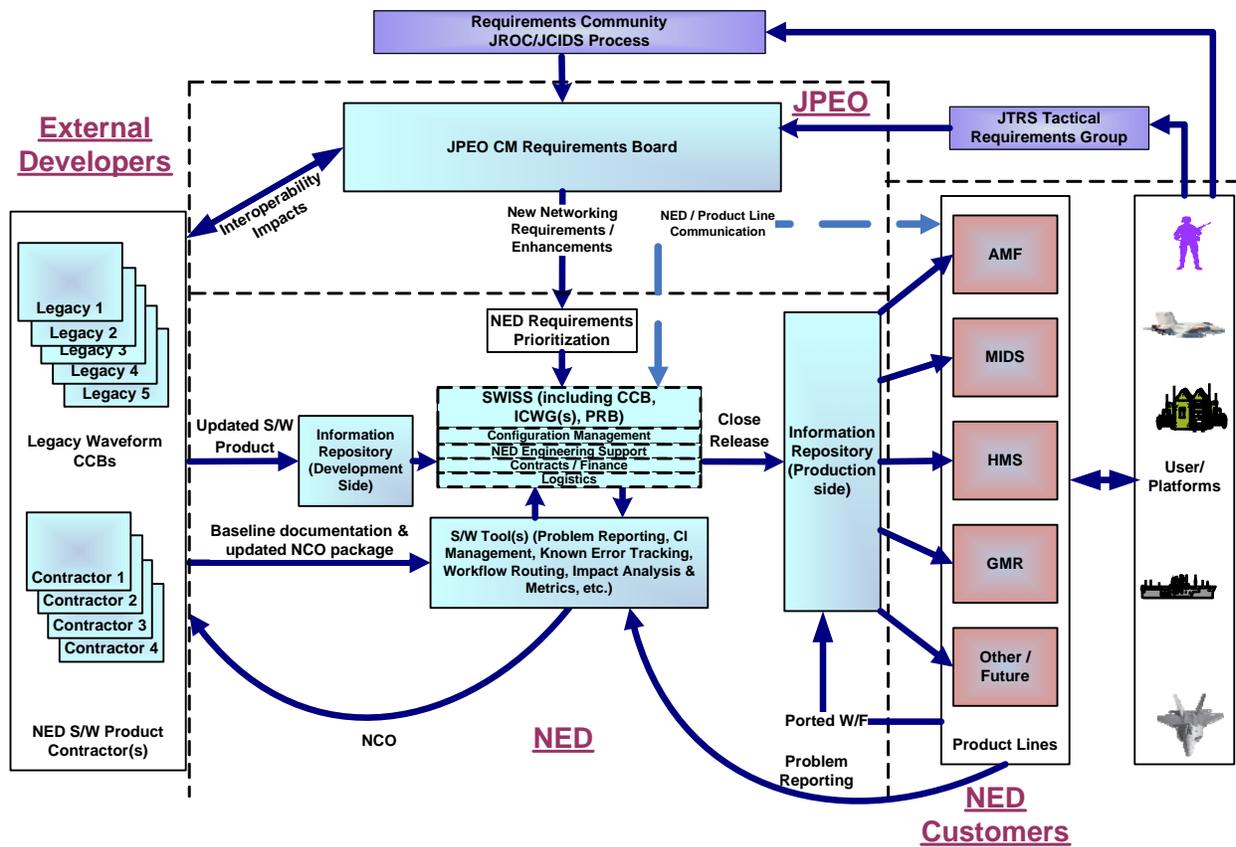


Figure 3.1 NED SwISS Model

The model provides the flow for identification, prioritization and vetting of new requirements, and PRs. SwISS activities in the center of the figure include managing configuration baselines through NED CCB decisions, analysis and disposition of PRs, and archiving and distribution of updated products. The SwISS model is Government managed and contractor tasked.

3.1 SwISS Process

SwISS is accomplished in four phases:

- **Initiate change**-PRs are received from JTRS PLs and NCPs (new requirements) are received from the JCIDS/JROC process, JTRG, or Legacy Radio Community. NED Engineering performs verification and prioritization of PRs to include impact analysis to JTRS PLs and prepares an NCP for accepted PRs. An NCP will provide recommendations for PR resolution as well as document the impacts to contracts, cost, risk, schedule, and security.
- **Review change**-NCPs will be evaluated by the ICWG/TWG to ensure interoperability is maintained. ICWG/TWG membership includes NED Engineering, PSM, CM, logistics, affected PLs, NSA, and appropriate SwISS contractor. NED CCB reviews all NCPs and renders decisions based on cost, schedule, and performance considerations. JPEO CMRB will adjudicate among NED and the other PLs when disagreements arise in the changes recommended or the approach to implement new requirements.
- **Execute change**-Approved NED CCB changes will be implemented through a structured release management process to manage and record product updates. NCOs will define the approved Configuration Control Decisions (CCDs), estimated cost, schedule and any certifications required that must be met as a result of the solution and will be the source data to develop contract task orders for existing sustainment contracts. Government Furnished Equipment/Government Furnished Information (GFE/GFI) will be identified and provided to contractors as required. Contractors will execute task order requirements and deliver updated products. The Government will oversee the contractors' efforts and conduct IV&V to ensure proper operation, interoperability, and security testing is performed.
- **Close Change**-Approval of updated product release will be documented and provided to CM to take closing action on NCPs related to the release. Updated products will be placed in the JTRS IR and PLs notified of availability.

Figure 3.2 depicts the SwISS process.

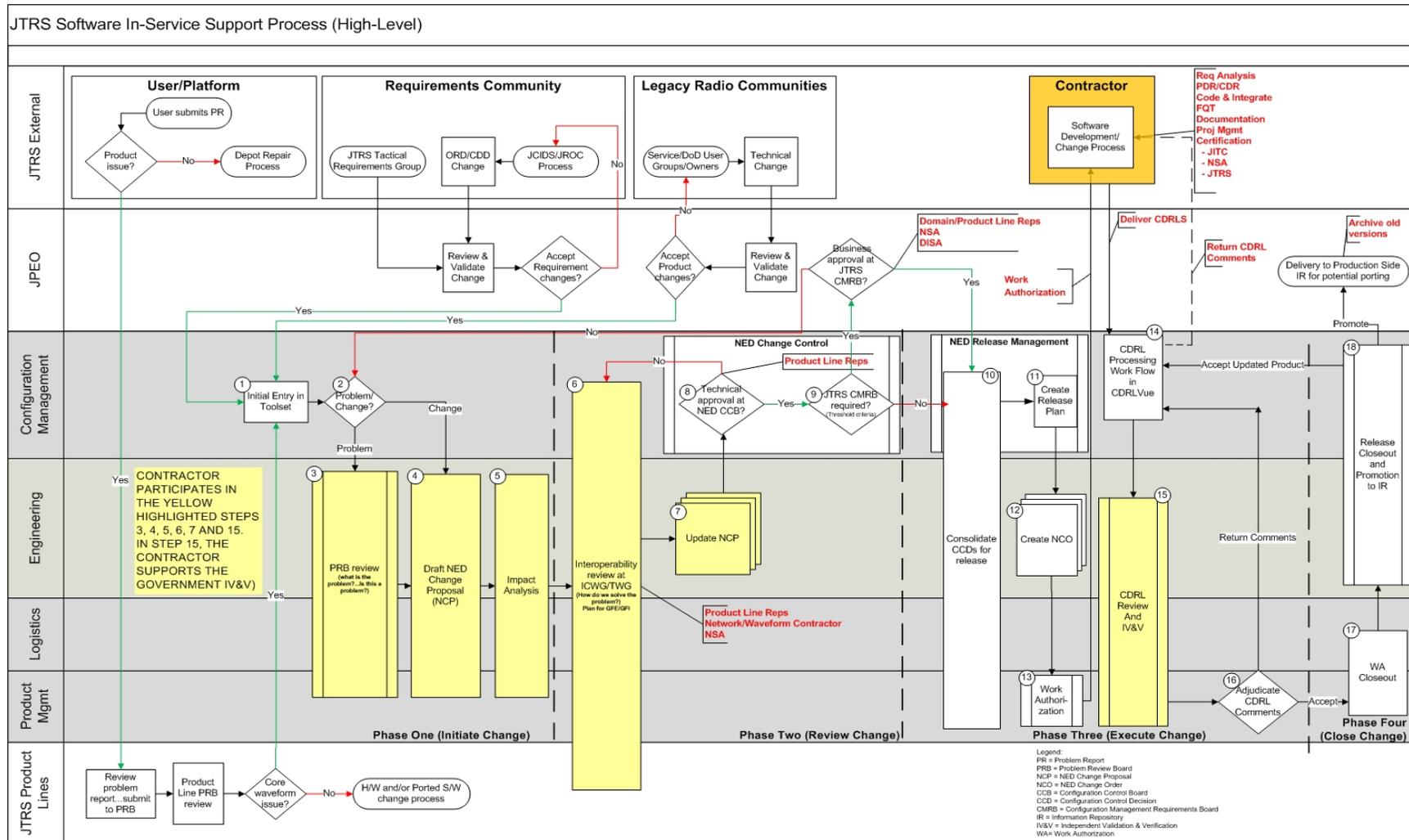


Figure 3.2 Swiss Process

4 SWISS Functional Areas

This section describes the activities performed by each functional area (NED Engineering, NED CM, NED Product Management, and NED Logistics) to support the SwISS activities in Figure 3.2. In addition, it defines relationships and interfaces necessary to accomplish SwISS.

4.1 NED Engineering

4.1.1 Purpose

NED Engineering interfaces with the entire NED organization as well as other JTRS stakeholders and the JTRS JPEO. NED Engineering will provide requirement/defect analysis, oversee the technical requirement for major enhancements, assist in IV&V, and perform other engineering tasks as required to support SwISS. The knowledge gained through these activities will be used to provide technical support to PLs during the porting process.

4.1.2 Scope

This section establishes the engineering responsibilities and processes that will be followed as the NED Program Office engages with internal and external organizations such as the JPEO JTRS and the JTRS PLs.

4.1.3 Responsibilities

NED Engineering focuses on changes to NED baseline software. The original NED baseline software is determined by a signed DD Form 250 signifying that the NED product is accepted by the Government. NED Engineering is responsible for changes to the baseline after that point. Figure 4.1 is a graphical representation of NED baseline software and branch software. It depicts the NED Program Office and PLs responsibilities.

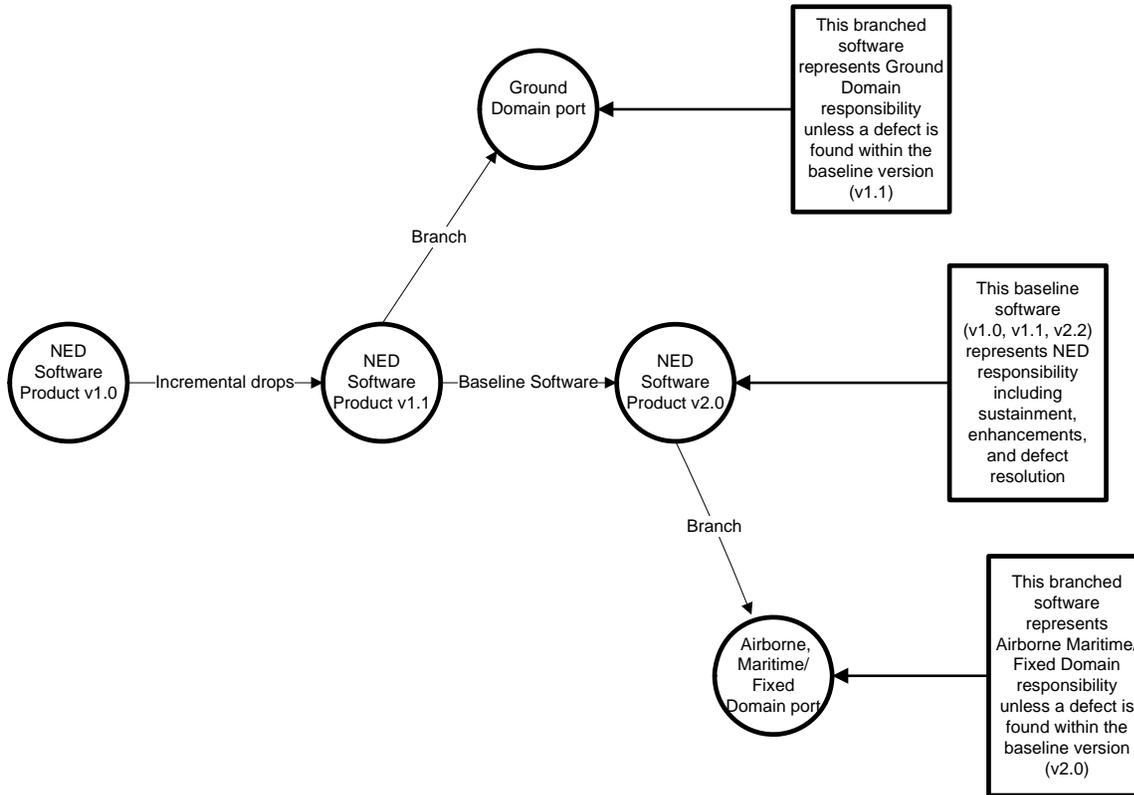


Figure 4.1 Example of NED Baseline software and branch software

4.1.3.1 Product Line Support

NED Engineering will designate specific NED baseline software application Information Repository content managers to provide PR/NCP update information, ensure that the PLs have the correct and complete baseline software and available documentation, and answer questions as required to port NED baseline software. NED Engineering will remain involved in the porting process to determine if there are improvements to the ported (branch) software that NED can incorporate into the NED baseline software. NED Engineering may perform analysis on the porting activity to better ensure successful subsequent ports to other JTRS hardware. The nature of interaction between NED and the PL will be ad-hoc and information is expected to be free flowing. The PLs are required to upload ported versions, along with all new and modified artifacts to the IR. NED intends to evaluate the ported software in the IR for changes and possible improvements to the baseline product. If appropriate, the ported software may also be adopted as the new baseline for that product. If so, NED will assume responsibility for maintenance of this new baseline product.

4.1.3.2 Problem Review Board

NED Engineering will establish and chair the PRB. The PRB will consist of each functional area within SwISS and the appropriate JTRS PLs. NED Engineering will follow the PRB process in Figure 4.2 as outlined.

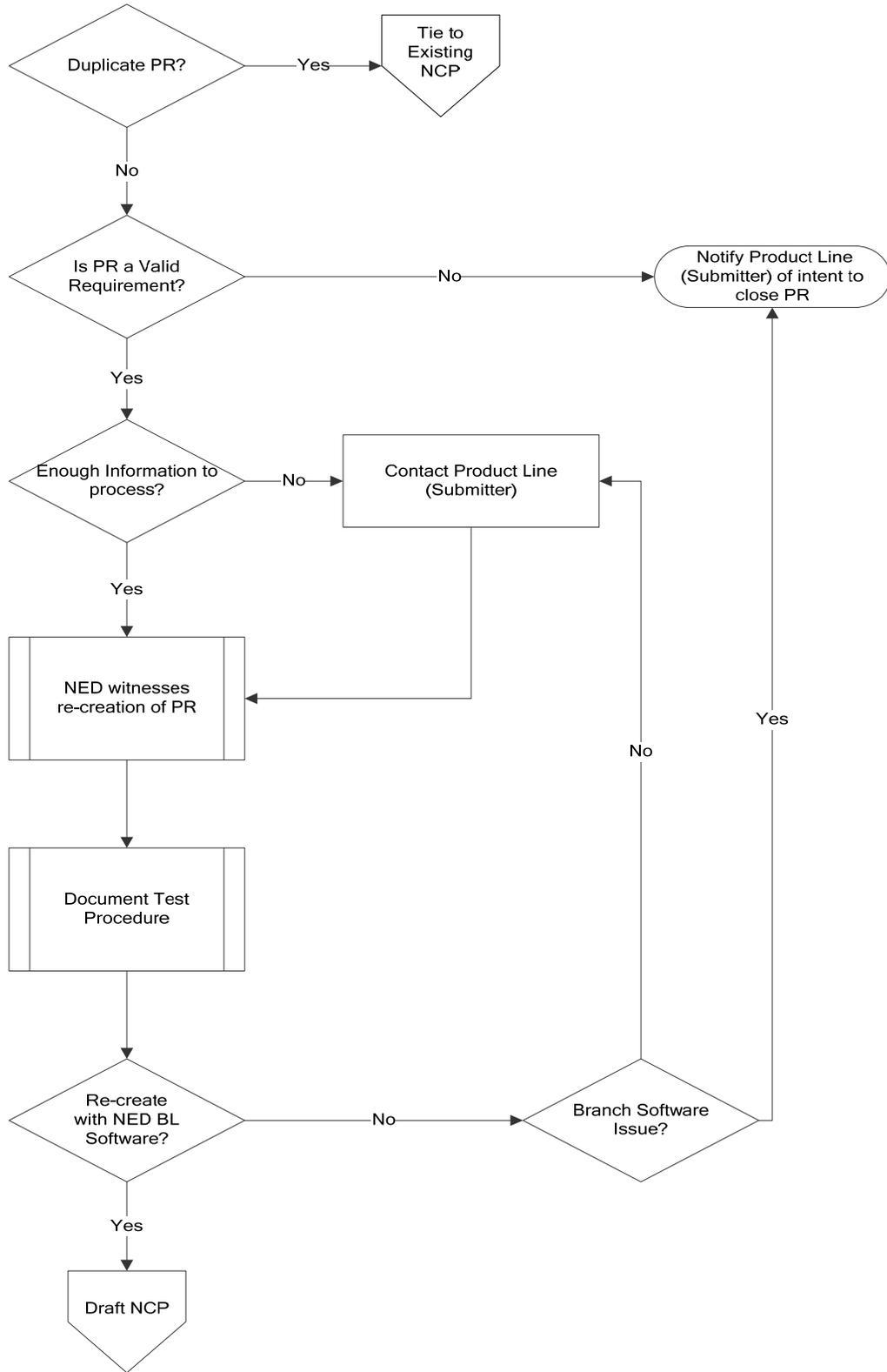


Figure 4.2 PRB Review process for NED Engineering

NED Engineering will determine if this is a duplicate PR with an existing NCP. If an NCP for this problem already exists, NED Engineering will notify CM to tie this PR to the existing NCP and end this process.

PRs are often generated due to a misunderstanding of requirements; therefore NED Engineering must first determine if the problem reported is a valid requirement of the software product. NED Engineering will verify legitimate baseline requirements through the Dynamic Object Oriented Requirements Systems (DOORS) database to source requirement documents such as the Performance Requirements Document, Operational Requirements Document, and Capability Development Document. NED Engineering will involve the JPEO JTRS TD, as well as the PL Managers, in any discrepancies of requirement interpretation.

The next step is evaluation of the PR to determine if sufficient information has been provided to understand the problem. If more information is required, NED Engineering will contact the submitter.

NED Engineering will gather as much symptomatic information as possible to perform an initial analysis. The analysis will begin by ensuring the problem can be recreated. If the problem can be re-created, the test procedure that re-creates the problem will be documented. NED Engineering will witness problem re-creation to ensure the problem is not initiator error or a misunderstanding of the requirement.

NED Engineering will determine whether the PR is a NED baseline software issue or a branch software issue by re-creating the problem in a test bed containing the NED baseline software. Problem re-creation can occur in a Government test bed or a contractor facility. NED Engineering will provide oversight to the contractor's analysis. There are two potential outcomes if re-creation of the PR is not successful using NED baseline software. One possibility could be a branch software issue and must be resolved by the PL. The other possibility is that NED Engineering did not have enough information to re-create the problem and will have to contact the PL for additional information.

4.1.3.3 Draft NED Change Proposal

If a new problem is proven to exist in the NED baseline software, an NCP will be drafted to include a problem definition (beyond the submitter's symptom description), Software Version Description, documented steps to re-create PR, any Software Anomaly Reports known to be associated with the same functionality, and related reference documentation.

4.1.3.4 Impact Analysis

Once the draft NCP is complete, NED Engineering will lead an impact analysis as shown in Table 1. Results of the impact analysis will be documented on the NCP.

Activity	Report out to ICWG/TWG
Determine if the resolution is technically feasible.	Report findings with recommendation on whether proposed resolution is within acceptable limits
Estimate the cost or validate cost estimate provided by the contractor.	
Estimate the schedule or validate the schedule provided by the contractor.	
Evaluate the risk associated with the proposed resolution.	
Determine if there are security impacts from the proposed resolution.	
Work with product lines to determine hardware impacts.	
Determine what certifications will be required once resolution is complete.	

Table 1: Impact Analysis Process

NED Engineering leads the effort in determining the impact across the JTRS Enterprise since NED products affect all JTR PLs. A report will be provided to the ICWG/TWG outlining the technical feasibility of the defect resolution, the cost and schedule estimate, risk evaluation, hardware impacts, security impacts, and certification impacts. Additionally, this report will propose priorities based on the JTRS Enterprise needs.

4.1.3.5 Interoperability Review

NED Engineering leads the ICWG/TWG to ensure NED products remain interoperable with previous versions of NED baseline products. Members of the ICWG/TWG will consist of JTRS PLs, contractors, and the NSA. The responsibility of each of these organizations is to provide their insight and expertise to ensure interoperability across the JTRS Enterprise.

4.1.3.6 Update NED Change Proposal

The output from the impact analysis and interoperability review will result in an update to the NCP. The NCP may contain multiple PRs. For each PR included, NED Engineering provides the parent and derived requirements that shall be met. The NCP will be updated to sufficiently document all impacts to the Configuration Item (CI), including impacts to requirements, documentation, contracts, costs, risks, schedule, and security to the extent possible. The updated NCP will be submitted to the NED CCB for review and approval.

4.1.3.7 Create NED Change Order

NED Engineering will create the NCO. The NCO will consist of a release plan which will outline the NCPs to be worked under this change order as well as the estimated cost and schedule on the software to be changed and any testing and certifications required.

4.1.3.8 Manage Independent Validation and Verification

NED T&E reviews the updated documentation provided by the contractor outlining any changes made in the appropriate Contract Data Requirements List (CDRL). This will ensure that correct documentation is available for the PLs during porting. NED T&E will utilize a test bed with access to essential hardware environments to validate the integration of independently developed software and hardware.

After changes are implemented, NED T&E will validate the solution using the test case developed during the NCP review process. If necessary, NED T&E coordinates with outside test agencies to ensure proper operation, interoperability, and security testing are performed. The updated software will be provided to the PL (via the IR). In the event the change cannot be validated by the PL after porting, the PR/NCP will re-enter the process at PRB review.

4.1.4 Interfaces

This section describes the relationship between NED Engineering and other NED activities or external organizations.

4.1.4.1 Relationship with NED Configuration Management

NED Engineering interacts with CM to review NCPs for completeness before submission to the CCB for review and collaborates with CM during the entire change control process.

4.1.4.2 Relationship with NED Product Management

NED Engineering interfaces with NED PSMs to coordinate changes to their products. Involving NED PSMs ensures that the integrity of functional requirements is maintained.

NED Engineering assists in creating contract packages to include Statements of Work, specifications, selection criteria, sole source justification information, and any additional technical contract requirements and documentation.

NED Engineering supports the PSM on contractor performance. This will include performance criteria on CDRL, software documentation, and software quality (including portability).

NED Engineering supports the NED PSM and Procuring Contracting Officer (PCO) when follow-on contracts need to be awarded or modified, as a member of the Contract Planning Conference (CPC).

4.1.4.3 Relationship with NED Logistics

NED Engineering provides GFE/GFI requirements, and/or identifies new requirements. NED Engineering advises on potential impacts to GFE/GFI and provides information for an NCP as required.

4.1.4.4 Relationship with JTRS Product Lines

NED Engineering participates in PL PRBs and provides consultation for PRs considered NED baseline software issues. In addition, NED Engineering obtains technical expertise from the PLs during the analysis in an ICWG/TWG.

4.1.4.5 Relationship with National Security Agency

NED Engineering involves the NSA at the PRB review and Interoperability Review at the ICWG/TWG. Additionally, NED Engineering collaborates with NSA for all security certifications and accreditations required as a result of change activities.

4.1.4.6 Relationship with JPEO JTRS Technical Director

The JPEO JTRS TD or a designated representative will be invited to all engineering meetings. For NED SwISS to reach its potential, TD support is essential to ensure that the focus remains on the enterprise goals as they remain fluid to support the warfighter's changing needs. Within the engineering processes, the adjudication of issues between JTRS PLs and the NED Program Office will occur at the JPEO CMRB. The JPEO CMRB charter will establish adjudication requirements.

4.2 NED Configuration Management

4.2.1 Purpose

The CM activities provide the tasks required to ensure proper control of product changes during SwISS activities. CM's role within SwISS activities is to establish, maintain, and effectively manage the product configuration during SwISS by developing and facilitating the process that evaluates, dispositions, and releases product changes. Additionally, CM is responsible for the collection, storage, and reporting of product data management and change status.

4.2.2 Scope

This section defines CM tasks within the SwISS activities and establishes the processes to be followed in order to properly manage the configurations of NED products that are in service as shown in Figure 1.1. The activities described within this section are mandatory for use by all NED personnel and other JPEO JTRS personnel who interface with these processes. The CM discipline shall be applied to all NED software, firmware, test hardware, test and support equipment, and all supporting documentation (i.e. product defining information).

For other CM activities or more detailed information regarding CM, refer to the NED CM Plan.

4.2.3 Responsibilities

4.2.3.1 Change Process Initiation

The Change Process has three basic origination points: User/Platform, Requirements Community and Legacy Radio Communities. The process initiation mechanism also supports any emergency modifications that may arise. Emergency modifications may be reported either internally or externally to the NED Program Office and will be statused as top priority, and moved up in the queue of actions pending NED CCB approval. JTRS PLs may also initiate NED PRs based on problems they identify during the porting of NED products to their hardware and operating environment.

User/Platform: The end-user in the field identifies an issue and elevates that within their command for applicable analysis. Upon determination of a product issue, the JTRS PL is notified via their problem reporting process, where it is reviewed and investigated. Once the report is determined to be an issue with a NED software product, a NED PR is initiated and submitted into the NED PR tracking database by the PL which raised the issue.

Requirements Community: Enhancements or upgrades to existing NED products are identified through the JCIDS/JROC process or from the JTRG on behalf of the Services. Once reviewed, validated and prioritized by the JPEO CMRB, the enhancements are communicated to the NED and NCPs are generated and entered into the NED CM toolset.

Legacy Radio Communities: Legacy radio communities may determine, with input from Services, user groups, etc., that a technical change to the legacy waveform is required. The proposed change “is brought to the JPEO CMRB for review, validation, and acceptance of the proposed change. Once approved, the proposed change is communicated to NED and NCPs are generated and entered into the NED CM toolset.

Upon initiation of a PR/NCP from one of the three origination points, CM will assign a tracking number and begin the necessary workflow routing. A draft NCP will be generated for PRs once they are validated..

4.2.3.2 NCP Evaluation Process

The CM staff will facilitate all ICWG/TWGs to discuss technical concerns and resolve issues involving interface compatibility. The following are actions performed by CM to support the ICWG/TWG:

- Review NCP for completeness
- Distribute electronic data packages
- Schedule ICWG/TWG meetings and delivering agendas
- Notify/Invite ICWG/TWG participants based on NED Software Product (e.g. Product Line, Platform Rep, Software Product Contractor, NSA, etc.)
- Facilitate ICWG/TWG
- Collect and coordinate NCP comments and submit them to members of the ICWG/TWG for review prior to meetings
- Collaborate with Engineering to issue resolution of comments
- CM records the NCP and the data associated with it.

Once a recommendation is generated by the ICWG/TWG, the NED CM staff ensures the NCP is updated.

Figure 4.3 depicts the NCP Evaluation Procedure which describes the activities related to conducting ICWG/TWGs which formulate a recommendation to present at the NED CCB.

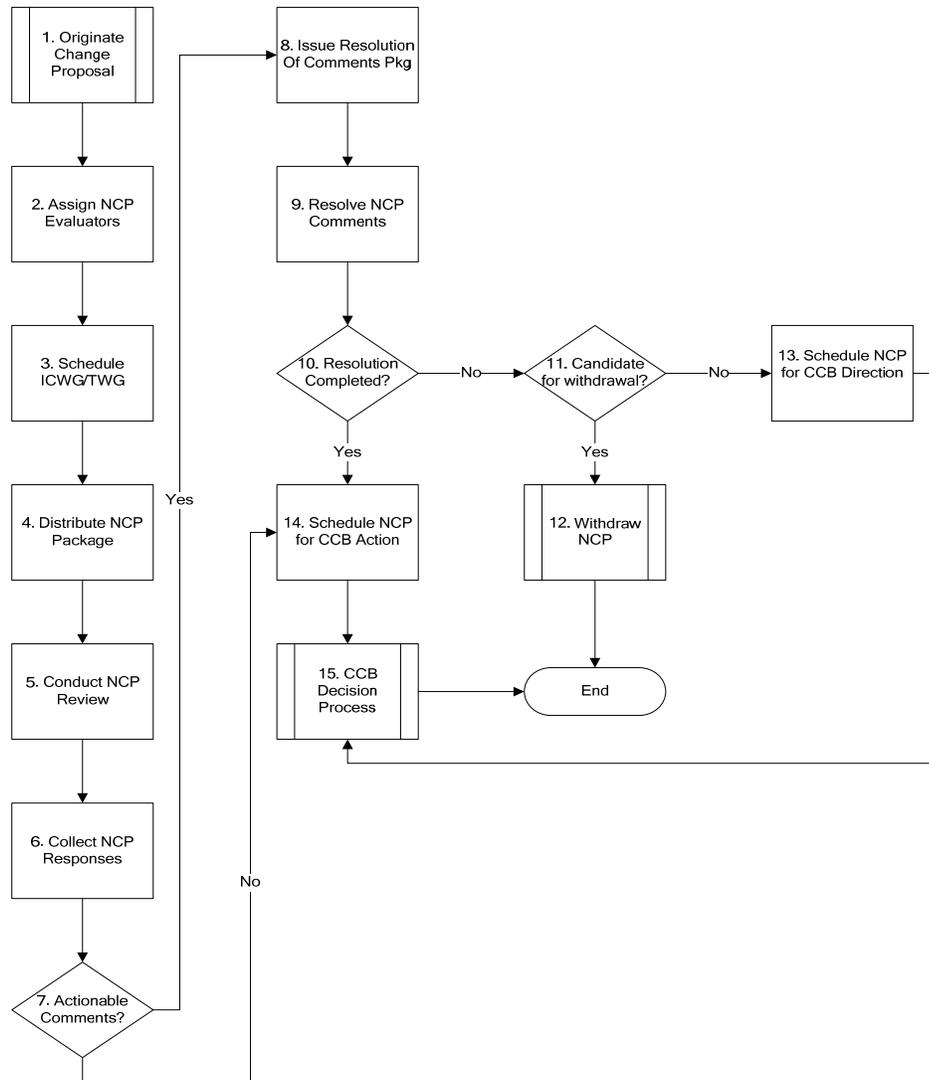


Figure 4.3 NCP Evaluation Procedure

4.2.3.3 NED Configuration Control Board

The NED CCB is the forum chartered to render a decision on proposed changes based on cost, schedule and performance considerations. The NED CCB is responsible for establishing and maintaining the NED-level baseline for the JTRS program. Using the technical recommendation from the ICWG/TWG as a basis, the NED Program Office ensures traceability of requirements from the NED-level documentation/baselines to the enterprise level documentation/baselines. In this capacity, the NED CCB is responsible for reviewing the technical and business impacts of a proposed change and disposition by one of four decisions:

Defer: A CCB may review an NCP and decide that deferral is the appropriate disposition pending resolution of issue raised at the CCB; however, NCPs shall not be deferred indefinitely. The CCB operating procedures shall specify a time limit for NCP deferrals.

Reject: This decision refers to a change that has been rejected by the NED CCB due to cost, schedule, performance, or timing considerations. The CM staff will status this proposal as “Rejected” and will notify the originator of the disposition.

Approved: This decision refers to a change that has been accepted by the NED CCB. The CM staff will status this proposal as “Approved” and will issue a CCD outlining the specifics of the approval. CCB required modifications to the NCP will be completed as per the NED CM Plan prior to CCD release.

Elevation to JPEO CMRB: This decision refers to a change that requires a modification in program level requirements or adjudication among the NED Program Office and other PLs. This proposal will be forwarded to the JPEO CMRB for review and decision. The CM staff will track the decision from the JPEO CMRB and implement CM activities according to the disposition of the proposal.

4.2.3.3.1 Configuration Control Directive Appeal Process

An NCP originator or other interested party may appeal an NCP approval or disapproval documented in a signed CCD. Although the objective of the change management process is to identify, discuss, assess, and resolve all substantive issues before a CCB, on occasion an appeal of a CCB decision will be made. An appeal should be considered a last resort. The NCP originator or other interested party must believe serious negative impact would result if the decision were not reconsidered. If the appeal is not successful at the NED CCB level, redress may be further sought from the JPEO CMRB, which is the final appeal body for NCPs.

Figure 4.4 depicts the CCB Decision Process which describes how the NED CCB evaluates an NCP.

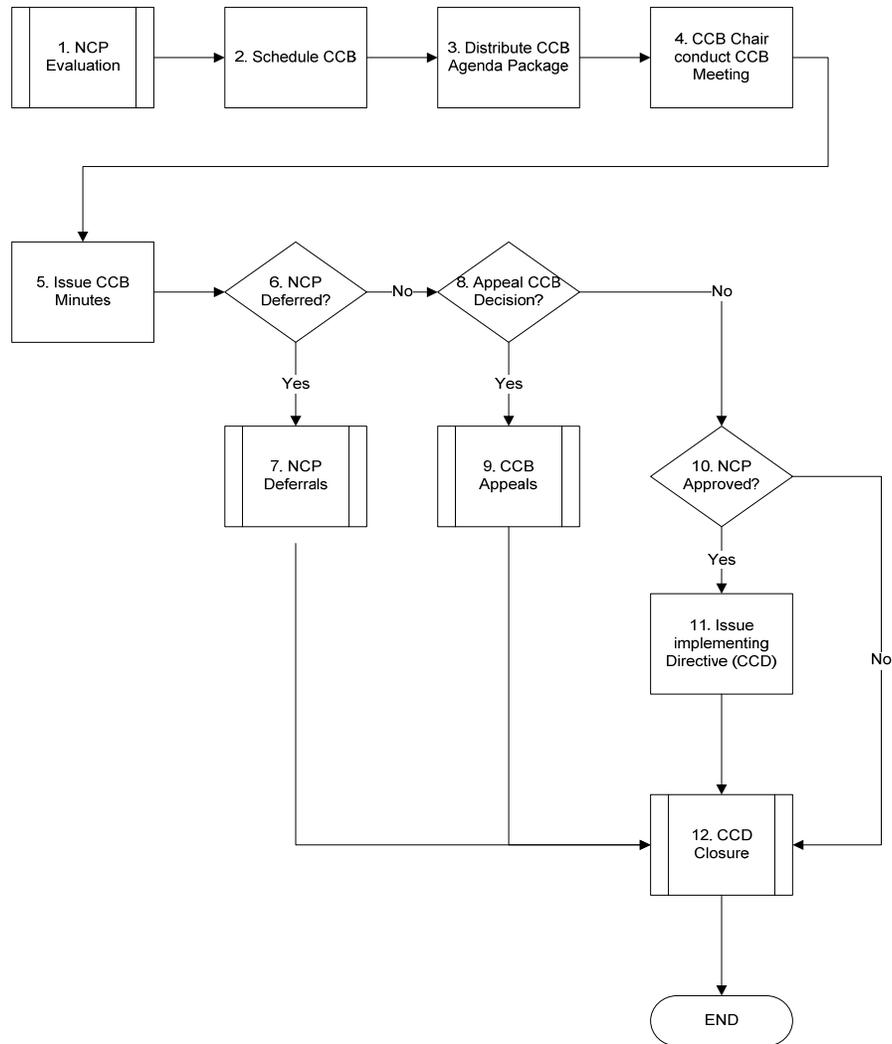


Figure 4.4 CCB Decision Procedure

4.2.3.4 Release Management

Release Management is a structured, repeatable approach employed to manage updates to products and record each respective version. Using guidance from the Program Manager, CM will develop a release plan to oversee any contractor directed modifications that result from a CCB. NED CM staff will initiate release management activities by consolidating CCDs by products and deliver the product release plan to NED Engineering to assist in drafting the NCO to be delivered to the contractor. The information included in the release plan will also assist Logistics to provide appropriate GFE/GFI, as necessary, to be used for testing and/or verification. Upon software receipt, testing, and approval by the NED Engineering team, Logistics may be required to create a Logistics Data Package (LDP) as part of the Release Plan to be delivered and tracked as part of the official release of the NED Product.

4.2.3.5 Software Distribution, Notification & Change Closure

Once all required information has been received and accepted, all NCPs related to the release will be closed, the software will be promoted to the production side of the IR, and notification

will be distributed to the affected PLs. NED products are officially “deployed” once the code is moved to the production side of the IR and is available for porting by the applicable PL. The NED Program Office will provide subject matter expertise during porting to assist PLs porting the base products onto their hardware.

4.2.3.6 Configuration Status Accounting

Configuration Status Accounting (CSA) is the systematic process of establishing, maintaining, and reporting CI information for stakeholders throughout the product/system life cycle. CSA data is a by-product of all CM processes, ensuring all necessary data is systematically recorded, safeguarded, and validated. CSA tracks baseline information, and modifications to baselines, to ensure that NED configurations can be accurately determined throughout the life cycle. Actions against baselines are recorded continuously and reported to management, stakeholders, and applicable functional area personnel to provide critical information.

CSA provides a highly reliable source of configuration information to support program management, systems engineering, and NED SwISS. The process supports metrics and inquiries concerning design changes, investigations of design problems, length of operation, and end-of-life issues. Figure 4.5 illustrates the CSA activity model.

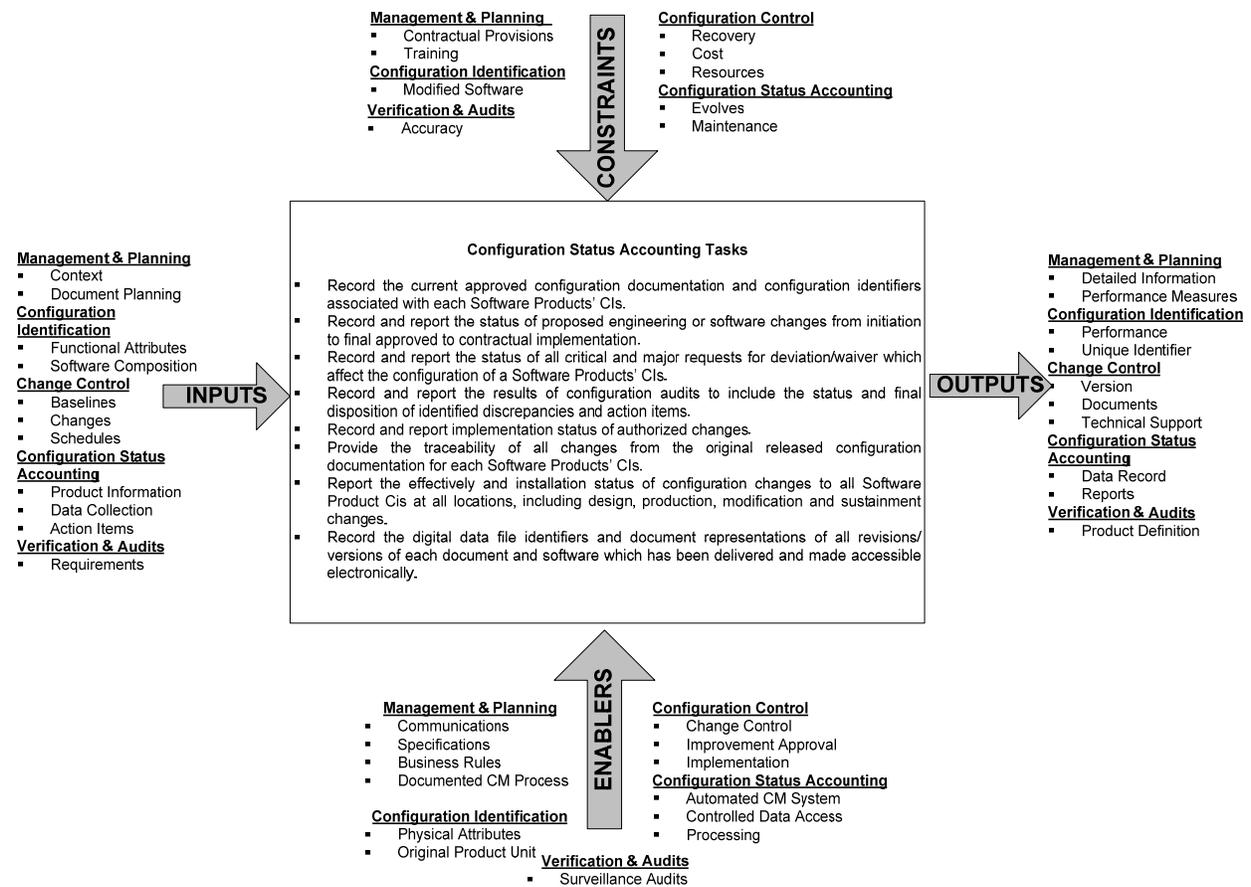


Figure 4.5 - CSA Activity Model

Table 4-2 represents information collected and reported via the NCP process.

Data Collection	Data Reporting
The status of proposed NCP associated with system CIs: NCP identification, documentation, and disposition	NCP metrics: Number of NCPs pending Number of NCPs submitted and completed by type Number of NCPs with interoperability issues Average NCP processing time by process step
The implementation status of authorized NCPs: Change identification, documentation, and disposition Change implementation – with associated documentation Configuration Verification: Test plans, procedures, and results Change Verification: Test plans, procedures, and results	Implementation Status (CCDs) Change Proposal Associated documentation Configuration Information: Traceability Performance Measurements: Revisions required per Validation Problems identified during testing

Table 4-2 Information Collected and Reported via the NCP process

4.2.4 Interfaces

4.2.4.1 Relationship with NED Product Support Manager

CM collaborates with the PSM to ensure that prior to approval of any NCP, there are contract vehicles available that are capable of being executed to support delivery of items required from the CCD. In addition, CM staff will assist the PSMs with monitoring and tracking CDRL deliveries from vendors.

4.2.4.2 Relationship with NED Engineering

CM communicates with the Engineering staff to ensure that PRs are reviewed at the PRB and that any documentation/expertise needed to process NCPs are reviewed at the NED CCB or the JPEO CMRB. Once an NCP is drafted and the ICWG/TWG provides technical evaluation, CM will route the NCP to the CCB. All actionable NED CCB evaluation and comments will be returned to NED Engineering. After all comments are addressed, or an impasse has been reached, CM staff will forward the NCP to the CCB for adjudication.

4.2.4.3 Relationship with NED Logistics

CM liaises with the Logistics function to ensure that required GFE/GFI is documented during the NCP evaluation phase.

4.2.4.4 Relationship with the Information Repository

The CM function interfaces with the IR to ensure that only properly documented, accepted and tested products are made available for the PLs to port. CM will determine the timing of when NED products are moved from the developmental area of the IR, which is accessible only to

NED personnel, to the production (i.e. Store-Front) area of the IR, which is accessible to the applicable PLs. This determination is made based on completion of the release activities defined in the Release Plan. CM will also ensure that the audit trails for all NED products are maintained, on both the Classified and Unclassified IRs.

4.3 NED Product Management

4.3.1 Purpose

The purpose of this section is to define the product management responsibilities, activities, and contract support for SwISS of NED Products. NED PSMs are the leads for these activities and are involved in the SwISS process from the beginning to the end. PSMs are the NED focal points that interface with PLs and for assigned products.

4.3.2 Scope

This section establishes the Product Management responsibilities and activities that will be followed as the PSM engages with internal and external organizations. The PSM supports the SwISS process from the identification of a problem or new requirement until final resolution and execution.

4.3.3 Responsibilities

The PSM will:

- Advise and assist program management officials on contracting related matters to include drafting and reviewing contracting documents, and support change order negotiations and the award fee process, if applicable
- Ensure prompt completion and delivery of Procurement Request/Modification Request packages
- Interface with PLs
- Maintain visibility of PRs by participation in PRBs
- Provide product knowledge and financial data to support NED Engineering for NCP development
- Support ICWG/TWG, CCBs, and NCO development
- Ensure follow-on contracts are in place to execute SwISS contract work authorizations
- Chair reviews with contractors and ensure cost, schedule, and performance requirements are met
- Review all PRs/NCPs/NCOs for completeness
- Ensure funds are available to execute product changes

4.3.4 Interfaces

4.3.4.1 Relationship with the Procuring Contracting Officer

The PSM works with the PCO to ensure proper execution of in-service support contracts for NED products and subsequent modifications and task orders. The PSM coordinates contract work authorizations with NED Acquisition Directorate and SPAWAR Contracts, as applicable. All contracting activities will be governed by Department of Defense and Federal Regulations, SPAWAR policies, and JPEO JTRS policies and procedures.

4.3.4.2 Relationship with the Information Repository

The PSM ensures contractors deliver finished products to the IR in accordance with the JTRS standard format. The IR will serve as the official location for NED baseline products. Only JPEO authorized personnel will have access to the IR.

4.3.4.3 Relationship with NED Configuration Management

PSMs are notified by CM when PRs or NCPs are received in the CM tool. PSMs collaborate with CM and ensure contract vehicles are in place prior to the creation of an NCP. PSMs are responsible for monitoring and tracking CDRL deliveries from vendors and coordinating responses through CM.

4.3.4.4 Relationship with NED Engineering

PSMs collaborate with NED Engineering during the SwISS process for analysis and review of baseline products, technical contract deliverables, and content of NCOs.

4.3.4.5 Relationship with NED Logistics

PSMs partner with the LM to ensure that logistics concerns are addressed. The LM ensures GFE is managed properly and arrangements are made for shipment (when necessary) with the contractor in coordination with the NED Program Office and property management officials (both Government and contractor). The PSM interfaces with the LM to ensure the required GFE/GFI is in place for execution of NCOs and to ensure delivered training packages meet user requirements.

4.4 NED Logistics

4.4.1 Purpose

The LM manages GFE/GFI for NED SwISS contracts. For changes to JTRS Wideband Networking Waveform/Enterprise Network Manager (JWNM/ENM) products, the LM manages and ensures delivery of a standard Army Training Package.

4.4.2 Scope

GFE/GFI will be provided to contractors performing SwISS on JTRS products. GFE/GFI consists of hardware, test/support equipment, software code, and documentation. Contractors performing in-service support on JWNM/ENM software are required to provide data packages necessary to update the standard Army Training Package.

4.4.3 Responsibilities

4.4.3.1 GFE/GFI Identification

The Master GFE List (MGFEL) identifies all items required to be supplied by the Government to the contractor to support NED software changes.

4.4.4 GFE Maintenance and Modification

4.4.4.1 GFE Maintenance

The NED SwISS LM shall coordinate with NED Engineering personnel, the NED PSM, and the respective NED SwISS contractor to ensure that provisions are in place to effect repair of GFE to effectively support NED SwISS operations.

4.4.4.2 GFE Modification

The NED SwISS LM coordinates with NED Engineering, finance, and CM personnel to ensure all required changes to SwISS GFE are identified, prioritized, funded, and executed. These changes include changes to base waveforms that indirectly affect GFE as well as changes applicable directly to the GFE.

The NED SwISS LM ensures that there are provisions in the NED SwISS contracts to monitor and report GFE technological obsolescence and ensures GFE is replaced or upgraded as required.

4.4.5 Interfaces

4.4.5.1 Relationship with NED Product Support Manager

The NED SwISS LM interfaces with the applicable PSM to ensure the required GFE/GFI is in place for execution of NCOs and to ensure delivered JWNM/ENM training packages meet user requirements. In addition, the logistics/contracts interface will ensure provisions are contained in work authorizations to monitor GFE technological obsolescence and upgrade GFE if required.

4.4.5.2 Relationship with Configuration Management, Engineering, and Finance

The NED SwISS LM interfaces with CM and NED Engineering to ensure; 1) all proposed changes are evaluated for their impact on GFE and 2) additional GFE/GFI requirements beyond those listed in the contract MGFEL are available for execution of NCPs and related NCOs. The NED LM interfaces with CM, NED Engineering, and finance to ensure that all changes to GFE required as a result of GFE vendor actions such as technological obsolescence or as a result of proposed changes to NED products, are identified, funded, approved, and executed.

4.4.5.3 Relationship with Defense Contract Management Agency

The NED SwISS LM interfaces with the cognizant DCMA office for each respective NED in-service support contract for purposes of receiving, storing, issuance, and accounting of contract related GFE. In addition, contractor requests for repair of GFE will be made via DCMA.

APPENDIX A: REFERENCES

Title of Document
Department of Defense FAR Supplement
Federal Aviation Administration Configuration Management Plan
Federal Acquisition Regulations
IEEE 12207 Standard for Information Technology—Software Life Cycle Processes
Mil-HDBK-61A, Military Handbook Configuration Management Guide
SPAWAR Contract Management Process Guide

APPENDIX B: ACRONYMS

Acronym	Definition
AMF	Airborne/Maritime/Fixed
CCD	Change Control Decision
CDD	Capabilities Decision Document
CCB	Configuration Control Board
CDRL	Contract Data Requirements List
CI	Configuration Item
CM	Configuration Management
CMRB	Configuration Management Requirements Board
CPARS	Contract Performance Assessment Report System
CPC	Contracts Planning Conference
CSA	Configuration Status Accounting
DCMA	Defense Contract Management Agency
DoD	Department of Defense
DOORS	Dynamic Object Oriented Requirements System
ENM	Enterprise Network Manager
FAR	Federal Acquisition Regulation
FCA	Functional Configuration Audit
FQT	Functional Qualification Test
GFE	Government Furnished Equipment

GFI	Government Furnished Information
GMR	Ground Mobile Radio
HMS	Hand-held, Manpack, and Small Form Factors
ICWG	Interoperability Control Working Group
IEEE	Institute of Electrical and Electronic Engineers
IR	Information Repository
IV&V	Independent Validation and Verification
JCIDS	Joint Capabilities Integration Development System
JPEO	Joint Program Executive Office
JROC	Joint Requirements Oversight Council
JTRG	Joint Tactical Requirements Group
JTRS	Joint Tactical Radio System
JWNM	JTRS WNW Network Manager
LM	Logistics Manager
MGFEL	Master GFE list
MIDS	Multifunctional Information Distribution Systems
MR	Modification Request
NCO	NED Change Order
NCP	NED Change Proposal
NED	Network Enterprise Domain
NES	Network Enterprise Services
NSA	National Security Agency
PCA	Physical Configuration Audit
PCO	Procuring Contracting Officer
PL	Product Line
PM	Program Manager
PR	Problem Report
PRB	Problem Report Board
PSM	Product Support Manager

SINCGARS	Single Channel Ground and Airborne Radio System
SOW	Statement of Work
SPAWAR	Space and Naval Warfare Systems
SwISS	Software In-Service Support
T&E	Test and Evaluation
TD	Technical Director
TO	Technological Obsolescence
TWG	Technical Working Group
WF	Waveform
WNW	Wideband Networking Waveform

APPENDIX C: SWISS PROCESS RASIC MODEL

SwISS RASIC Model									
	JPEO	NED PM	SPAWAR KO	JTRS HW Domains	Contractor	Product Management	Engineering	Configuration Management	Logistics
	Activity								
* Intial Entry in Toolset	R	A		R		I	I	S	
Problem or Change?		A		C,I		C	S	R	
PRB Review		A		C,I	C	C	R	S	C
Draft NED Change Proposal (NCP)		A		I		C	R	S	C
Impact Analysis		A		C		C	R	S	
Interoperability Review (ICWG/TWG)		A		C		C	R	S	C
Update NCP		A		C,S		C,S	R	S	C,S
Technical Approval at NED CCB?	I	A		C		S	C	R	S
* JTRS CMRB Approval	R, A	I		C		S	C	S	S
Consolidate CCDs for release		A		I		C	C	R	C
Create Release Plan		A		I		C	I	R	I
Create NCO		A				S	R	S	S
Work Authorization		A	C		C	R	I	S	S
Provide GFE/GFI (as required)		A		C	I	S	C	S	R
* Software Development/Change Process		A			R	I	I	I	I
Document approval & software receipt (IV&V)		A	I	I	C	I	R	S	I
Create LDP		A	C	I		C	I	S	R
Software Distribution/Notification/Release Closure	I	A	I	I		I	C	R	I
* IR Delivery	R, A			I		I	I	I	I

1.4

R = Responsible - performs the activity
A = to whom "R" is Accountable - who must sign off (**Approve**) on work before it is effective- owns the process step/activity
S = Supportive - provides resources or play a supporting role in implementation in that activity
I = to be Informed - must be notified of results, but need not be consulted in that activity
C = to be Consulted - has information and/or capability necessary to complete the work in that activity
**Areas shaded in blue have Responsibility and/or Accountability outside of the Swiss Process*

APPENDIX D: GLOSSARY

Contract Modification. A minor change in the details of a provision or clause that is specifically authorized by the FAR and does not alter the substance of the provision or clause

Configuration Item (CI) A functionally or logically oriented set of software that is controlled by configuration management in the same manner as an item of hardware.

Firmware. A combination of software and hardware in which read-only type of software is installed in a hardware item. As a result, the software element is difficult to change or update once it is installed.

Interoperability. Interoperability is the condition achieved among communications-electronics systems or items of equipment when information or services can be exchanged directly and satisfactorily between them and their users. For example, interoperability could be established between a SINCGARS voice net and another system voice net through a transparent interface of a JTR set operating simultaneously in both nets.

JTRS Information Repository. The IR is an enterprise-based system for data management that distributes relevant JTRS work products and information to the JTRS community (government and industry). The IR was established to facilitate and accelerate the development, integration, test, and fielding of JTRS products by maximizing code reuse and portability.

NED Baseline Software. NED baseline software is software developed under a NED contract that has been accepted by the Government documented by a signed DD250 form.

Procuring Contracting Officer. A person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the contracting officer. Administrative contracting officer (ACO) refers to a contracting officer who is administering contracts.

Software. A set of coded computer instructions and associated procedural data that direct computer hardware to perform computations or control functions.

Task Order/Work Authorization. An order for services placed against an established contract or with Government sources.

Waveform. In JTR System usage, the term waveform is used to describe the entire set of radio functions that occur from the user input to the RF output and vice versa. A JTR System "waveform" is implemented as a reusable, portable, executable software application that is independent of the JTR System operating system, middleware, and hardware.

Waveform Application. A portion of the waveform that is implemented in software code.