CONFIGURATION MANAGEMENT PROCEDURE

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See Configuration Management System for approval history.

Change Record

REVISION	DATE	ECO #	DESCRIPTION OF CHANGE
A	08/11/2011	ECO-00241	INITIAL RELEASE
B	10/11/2012	ECO-00327	Minor Update to incorporate lessons learned and to be in alignment with the new Configuration Management Plan. Tracked changes version of this document is available in Agile. Revised sections: 1.x, 2.x, 6.x -13.x. Document name change to Configuration Management Procedure.
C	02/07/2013	ECO-00722	Minor update to incorporate process lessons learned. Tracked changes version of this document is available in Agile. Revised sections: 2.2, 2.4, 7.4.5, 8.1, 10.1, 10.2, and 10.6
D	02/03/2014	ECO-01634	Swapped “G” and “H” prefixes in numbering schema. “G” is now AOS, “H” is now AIS.
E	03/03/2014	ECO-01734	Added second-place “J” identifier to assembly numbering schema for STREON assemblies

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1 DESCRIPTION

The following procedure is directed at Configuration Items (CM Items); Documents, Parts, and Assemblies.

1.1 Purpose

The purpose of this procedure is to describe in sufficient detail the information and process required to create a new CM Item; Document, Part or Assembly in the Agile Configuration Management System (CMS).

1.2 Scope

This procedure covers activities related to the creation of CM Items; Documents, Parts and Assemblies required for the completion of NEON. This procedure does not cover Software CM Items that are covered in NEON.DOC.003005 NEON Software Configuration Management Plan. This procedure does not cover documents that are not configuration controlled and are stored on the corporate intranet. This procedure does not cover Items, non-configuration controlled goods that are created and numbered in the Operations Support System (OSS), nor does it cover the Asset Management process for Items, Parts and Assemblies

1.3 Standard

This procedure was developed to be in accordance with ANSI/EIA-649-B Configuration Management Standard.

2 RELATED DOCUMENTS AND ACRONYMS

2.1 Applicable Documents

Applicable documents contain information that shall be applied in the current document. Examples are higher level requirements documents, standards, rules and regulations.

AD[01]	NEON.DOC.000004	NEON Configuration Management Plan

In the event of a conflict with NEON.DOC.000004 and this document, NEON.DOC.000004 shall take precedence.

2.2 Reference Documents

Reference documents contain information complementing, explaining, detailing, or otherwise supporting the information included in the current document.

RD[01]	NEON.DOC.000008	NEON Acronym List
RD[02]	NEON.DOC.000243	NEON Glossary of Terms

RD[03]	NEON.DOC.004243	NEON Document Template
RD[04]	NEON.DOC.002087	Part Documentation Procedure
RD[05]	NEON.DOC.002086	Part Document Template
RD[06]	NEON.DOC.004252	Material Review Board Procedure

In the event of a conflict with NEON.DOC.002087 and NEON.DOC.002086, NEON.DOC.004254 shall take precedence.

2.3 External References

ER[01]	ANSI/EIA-649-B	Configuration Management Standard

2.4 Acronyms

For additional definitions of acronyms please reference RD[01].

CCB	Change Control Board
CM	Configuration Management or Configuration Managed
CM Item	Configuration Item
CMP	Configuration Management Plan
CMS	Configuration Management System
ECO	Enterprise Change Order
DCS	Document Control Specialist, aka “Change Analyst”
MRB	Material Review Board
NCR	Nonconforming Material Report
OSS	Operations Support System

3 OVERVIEW

The Agile Configuration Management System (CMS) is the tool used to provide configuration control, change control, and unique numbering for documents, parts, and assemblies. This document describes how Agile has been configured to provide the framework and process for configuration items.

4 CONFIGURATION MANAGEMENT

By definition, Configuration Management (CM) applies to the entire spectrum of change: initiation, analysis, approval, design, development, testing, implementation, status accounting, and administrative processing. It strongly embraces the elements of order, discipline, and control to prevent unauthorized changes, expediting the implementation of valid changes, and maintaining an exact match to the written documents that describe the hardware, software, and products being controlled.

5 CONFIGURATION CONTROL

Configuration Control is the systematic proposal, justification, evaluation, coordination, and approval or disapproval of proposed changes. Configuration control also includes the implementation of all approved changes of a configuration item after the establishment of the baseline for the CM Item. The configuration control process includes the identification of proposed changes, documenting proposed changes so that they may be processed and evaluated, disposition of proposed changes, implementing approved changes and verifying correct implementation.

The primary functions of configuration control within the NEON CM process are to:

- Prevent unauthorized changes to NEON CM Items while expediting the approval of those changes that are necessary or promise significant benefits to end users.
- Ensure changes have been demonstrated, tested, and verified as a unit and a system.
- Establish change categories, change priorities, and insure the necessary instructions are issued for prompt action on approved changes.
- Provide revision control for prior and future CM Item releases.
- Facilitate ordered testing of implemented CM Item changes.
- Facilitate disposition of affected material of implemented CM Item changes.
- Ensure manufacturers, suppliers, and contractors process implemented CM Item changes.

6 DOCUMENTS

6.1 Document Submittal Process

The information below is not intended to be a step by step guide on how to use Agile. Step by step guides can be found in Agile by typing help in the upper right search window. Once in the help folder click on the files tab to find the appropriate step by step guide. The information below provides the framework and process for documents that are configuration controlled. CM Documents are submitted, reviewed, approved and released through the Enterprise Change Order (ECO) process. Reference the CM Document Approval Phase in Figure 1: CM Document Submittal Process and Appendix A: CONFIGURATION MANAGEMENT REVIEW AND RELEASE PROCESS – DOCUMENTS. Prior to the CM Document Approval Phase is the CM Document Preparation Phase, reference Figure 1 below. The flow chart describes the best practice of obtaining a document number, attaching the document to that number and soliciting feedback from the Stakeholders prior to the ECO process.

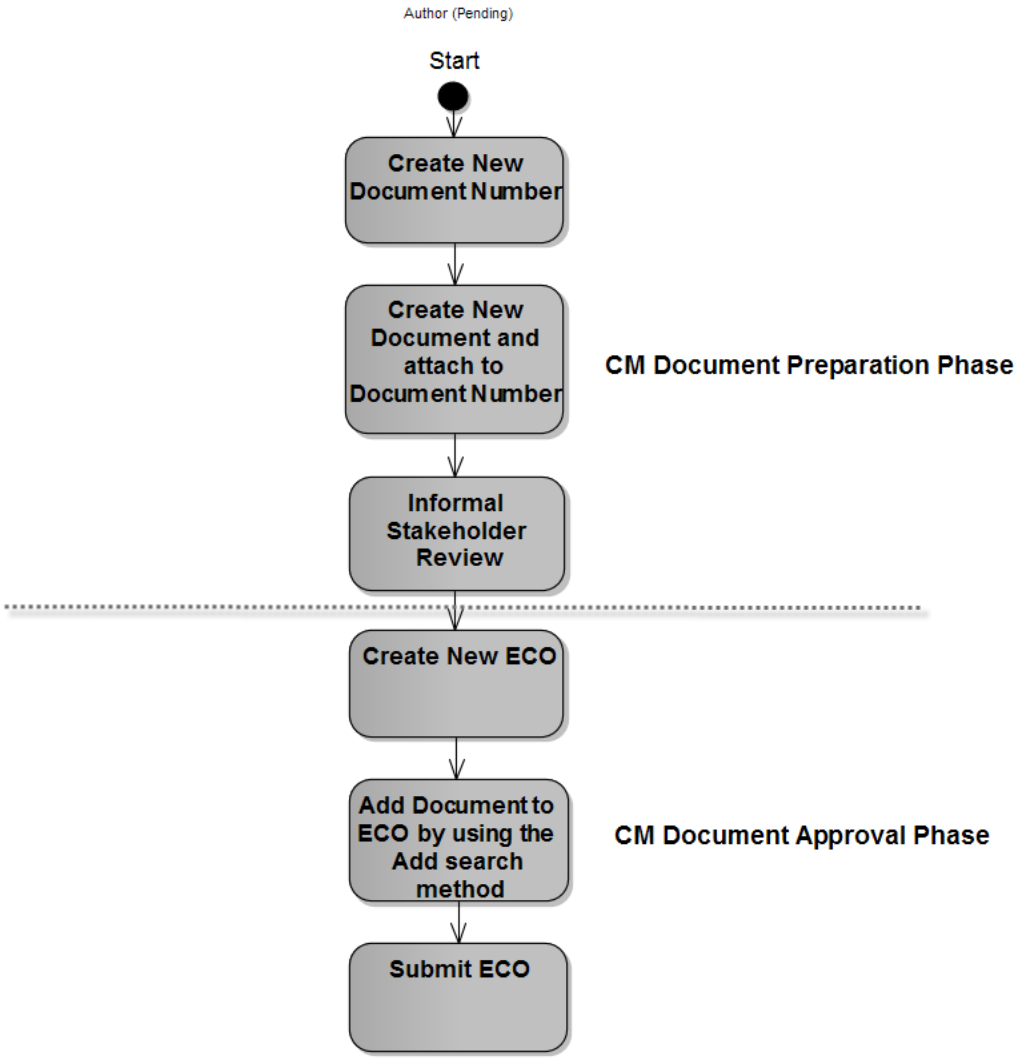


Figure 1: CM Document Submittal Process

6.2 Document Templates

When creating a new document, best practice is to start with a released document template. Document templates can be found by typing template in the upper right search window of Agile. The default template is the NEON Document Template RD[03]. Note: Select Object type Document not ECO for the latest released template.

6.3 Documentation Configuration Management

This section covers the basic elements of what is required for a CM Document.

6.3.1 Documents Specification Identification

Each CM Document is assigned a unique number in Agile. Agile has been configured to provide the following Document Number when a new Item Document is created: PPPP.DOC.SSSSSS

Where:
PPPP = Project = NEON
DOC= Document
SSSSSS = Sequential Number
Note: Historical documents will be updated with the new identifier at the next revision. Historical documents will maintain the same number but the prefix will change to the format above.

Example: NEON.DOC.oldnumber

Note: The document lists the Title and Document Number in the Header Table.

6.3.2 Revision

All CM documents shall have an alpha revision identifier. Agile is configured to display the latest ECO released revision. If you want to see a pending or older revision, select the down arrow in the Rev: box. Reference Figure 2: Document Title Block. The document lists the Revision in the Header Table and Change Record Table. The Change Record Table includes a description of change that lists each section that was updated.

Example: Rev A (Initial Release)
Rev B (Next Baselined Release)
Etc.

ECO released Draft documents will have the next letter sequence followed by underscore Draft. For example a document currently released at Revision B would have an updated draft version identified as C_Draft. Reference Appendix C ECO Levels for an example of an ECO released Draft document.

6.3.3 Configuration Management Review and Release Process for Documents

The review and release process is fully defined in the Configuration Management Plan AD[01] but described in this procedure for reference. The release process is the action that makes documents officially available for use. The process consists of a Stakeholder and CCB review using the NEON ECO Process. Once a document is released using the NEON ECO Process it is officially available for use and published in the Document Warehouse. The Document Warehouse contains the latest revision. Reference Appendix A: Configuration Management Review and Release Process – Documents for the swim lane flow chart that shows the responsible party and action required to release a controlled document.

6.4 Agile CMS Tool Features

This section describes the features of Agile. This section is organized in the same order as the names as the tabs in Agile.

6.4.1 Title Block

Agile is configured with a Title Block that helps users find the document in the future. Every category in the Title Block is searchable.

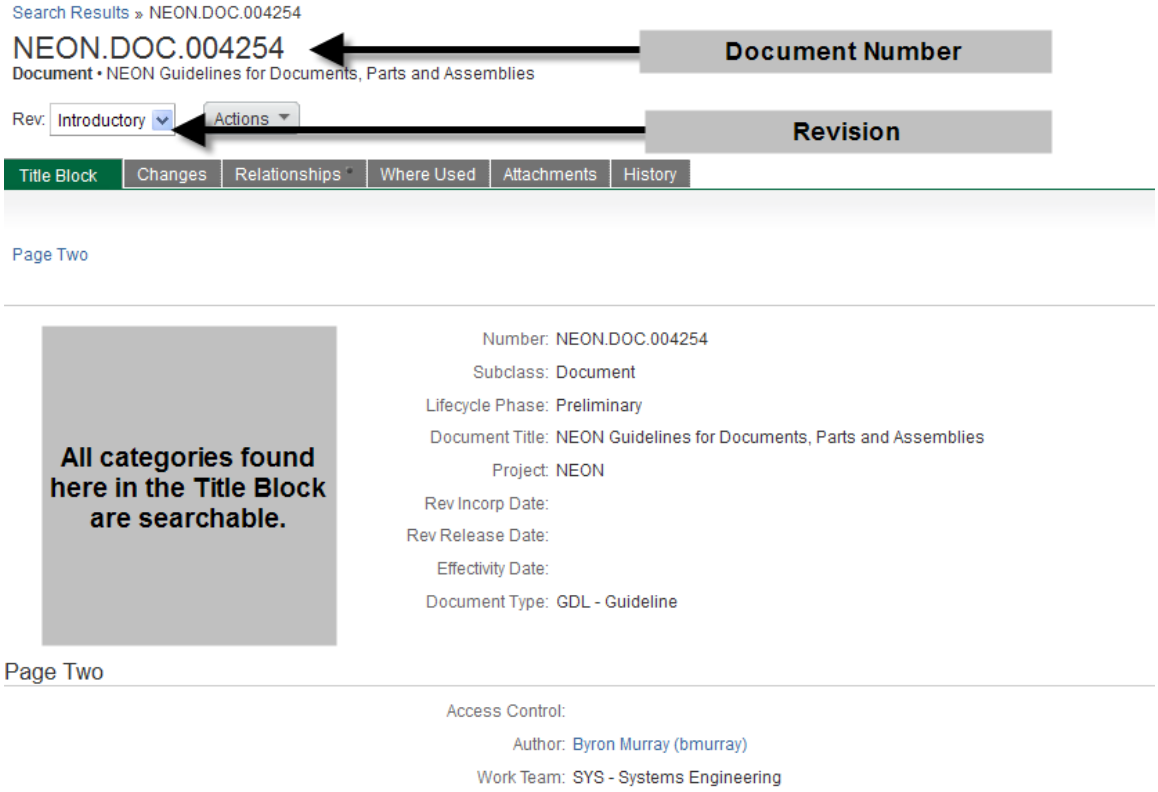


Figure 2: Document Title Block

6.4.1.1 Document Types

In the Title block is the category Document Type. Each CM Document is categorized as a document type. Agile has been configured with the Document Types listed in Table 1:

Document Type	Description
CAP	Corrective Action Preventive Action
DSN	Design Document
DWG	Drawings including block diagrams
FRM	Form / Template
GDL	Guidelines and Works Instructions
GEN	General
HBK	Handbook
ICD	Interface Control Document
IDD	Interface Design Document
LIS	Lists
LOC	Locations (includes kmz files, maps, and may include excel spread sheet of lat/longs)
MAN	Manual
MEM	Technical Memorandum
NCR	Non Conformance Report
PLA	Plan
POL	Policy
PRO	Procedure, Standard Operating Procedure, Protocols
REP	Report
REQ	Requirements & Algorithm Theoretical Basis Documents
RFW	Request for Waiver
SCH	Schematic
SOW	Statement of Work
SPE	Specification (Note: Requirements are inputs to a design, specifications are outputs)
STD	Standards
TCS	Test Case
TSD	Trade Study Document
WID	Workflow Interface Document

Table 1: Configuration Managed Document Types

6.4.2 Relationships

Agile is configured with the ability to link a document to other documents. The purpose of this tool is to identify other documents that may need to change if you make a change to this document. The same documents listed in the "Applicable Documents" section should be listed under relationships. Reference example below Figure 3: Document Relationships.

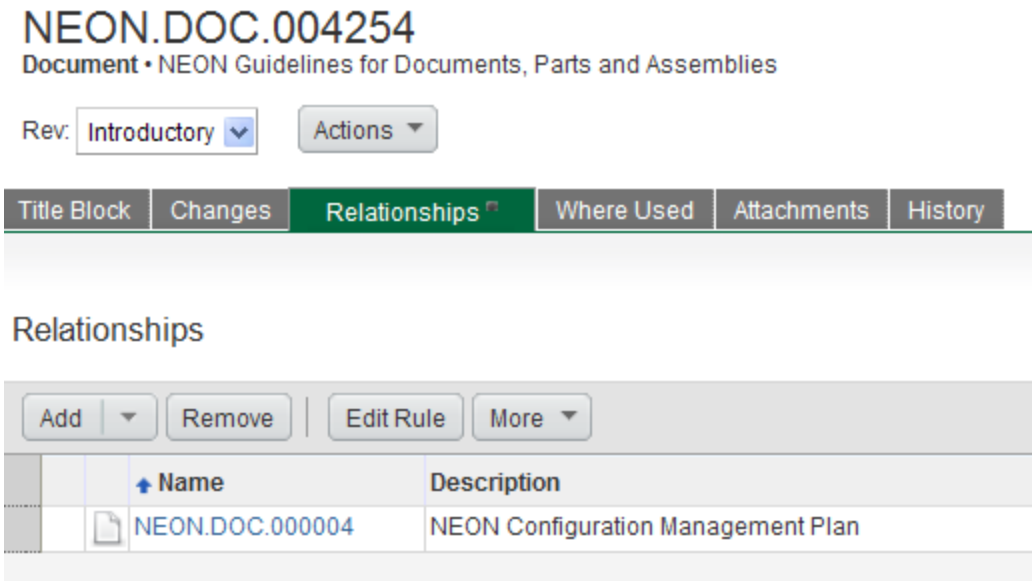


Figure 3: Document Relationships

6.4.3 Attachments

CM controlled attached documents in Agile shall be the following file name format: (**UPPER CASE LETTERS** must be used for all components of the file name.)
PPPP.DOC.SSSSSS.pdf
PPPP.DOC.SSSSSS.docx

Non CM controlled supporting documents should be attached with a name that describes the document.

7 PART AND ASSEMBLIES

7.1.1 Part and Assemblies Submittal Process

The information below is not intended to be a step by step guide on how to use Agile. Step by step guides can be found in Agile by typing help in the upper right search window. Once in the help folder click on the files tab to find the appropriate step by step guide. The information below provides the framework and process for parts and assemblies that are configuration controlled. CM Part and Assemblies are submitted, reviewed, approved and released through the NEON part and assembly ECO process. Reference Figure 4: CM Part or Assembly Submittal Process and Appendix B: Configuration Management Review and Release Process - Parts and Assemblies

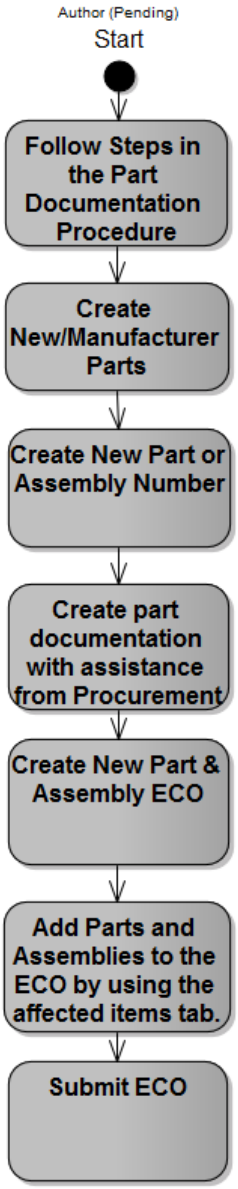


Figure 4: CM Part or Assembly Submittal Process

7.2 Part Documentation Procedure

When creating a new part best practice is to start with the Part Documentation Procedure RD[04].

7.3 Parts and Assemblies Configuration Management

This section covers the basic elements of what is required for a CM Part or Assembly.

7.3.1 Parts Identification Specification

All NEON parts shall be identified by a unique 10 digit number and revision. Agile has been set-up to provide an auto number in the following configuration (SSSSSSKIND):

Where:
SSSSSS = Sequential Number (Note: For historical purposes the sequential number begins with 03)
KIND (Reference below and the Part Documentation Procedure RD[04])

Part "KIND" numbers are used to uniquely identify parts that are similar in characteristics but differ by small variations. This will create a 10 digit part number. If there is only a single variation of the part, the part "KIND" is assigned the value 0000. For parts with multiple variations, the part "KIND" number is defined in the part documentation. The part documentation provides a detailed description of the part.

0000 = Used if only one of a kind.

If two or more "KIND" identified, then:

0001 = First of Kind
0002 = Second of Kind
0003 > and so forth

7.3.2 Assembly Identification Specification

All NEON assemblies shall be identified by a unique 10 digit number and revision. Agile and processes associated with it are configured to ensure a unique number. Reference below Figure 5: CVAL and NEON Assembly Numbering Schema.

7.3.3 Parts and Assemblies Physical Configuration Identification

Fabricated Parts will be physically marked with the NEON Part Number and revision if space allows. All assemblies will be physically marked with the NEON Part Number and revision. Physical part and assembly marking will be specified on the drawing.

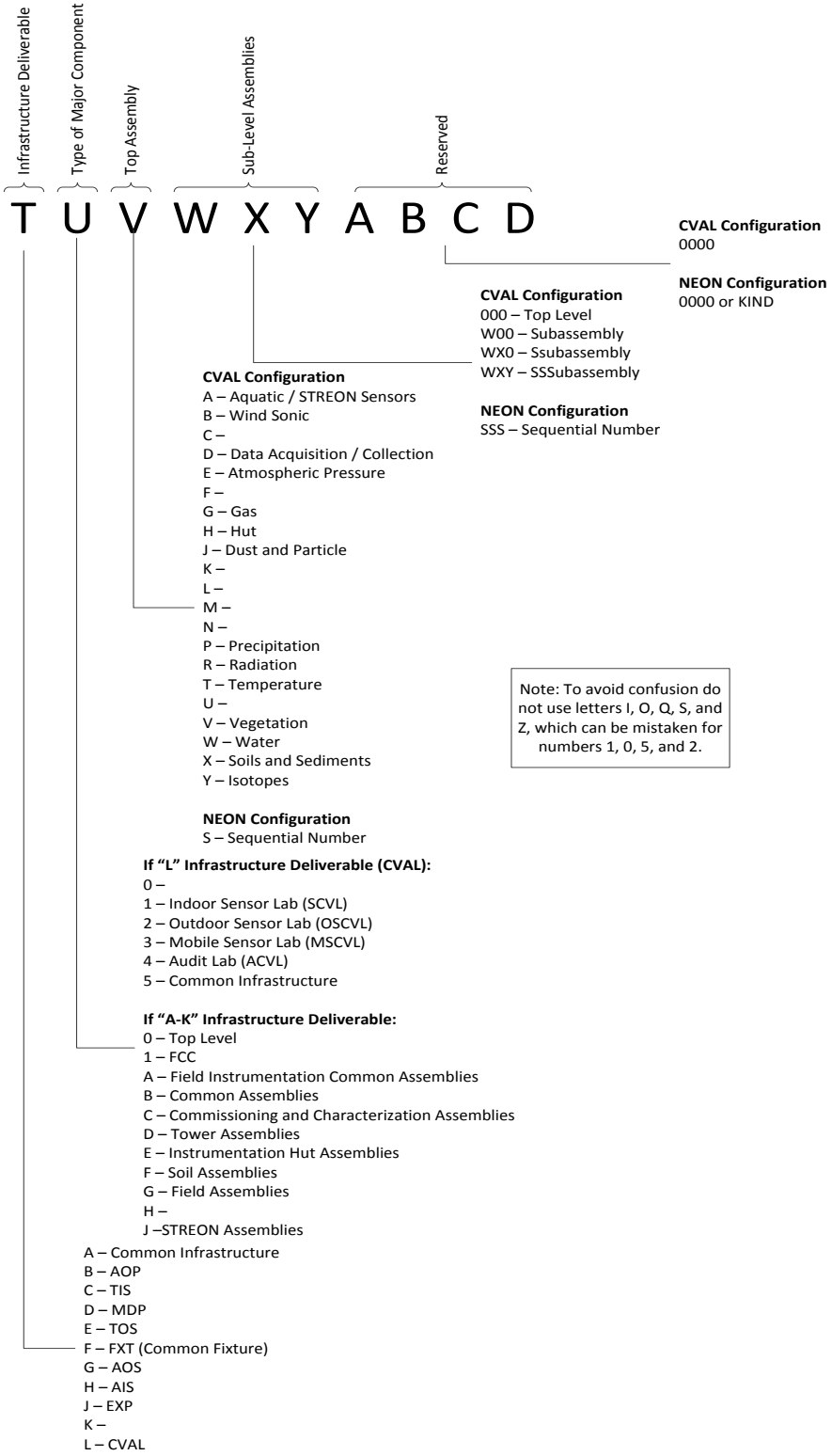


Figure 5: CVAL and NEON Assembly Numbering Schema

7.3.4 Revision

All CM parts and assemblies shall have a Numeric revision identifier for prototype and an Alpha revision identifier for production intent. Agile is configured to display the latest ECO released revision. If you want to see a pending or older revision, select the down arrow in the Rev: box. Reference Figure 6: Part Title Block. The document or drawing lists the Revision in the Header Table and Change Record Table. The Change Record Table should include a description of change that lists what was updated.

CM Parts and Assemblies shall have a numeric revision identifier for prototype release.

CM Parts and Assemblies shall have an alpha revision identifier after production intent release.

Example: Rev A (Initial Release)

Rev B (Next Baselined Release)

Etc. (Note: I,O,Q,S,X and Z shall not be used)

7.3.5 Configuration Management Review and Release Process for Parts and Assemblies

The review and release process is fully defined in the Configuration Management Plan AD[01] but described in this procedure for reference. The release process is the action that makes parts and assemblies officially available for use. The process consists of a Stakeholder and CCB review using the NEON Part & Assembly ECO Process. Once a part or assembly is released using the NEON Part and Assembly ECO Process it is officially available for use and exported to the OSS. Reference Appendix B: Configuration Management Review and Release Process - Parts and Assemblies for the swim lane flow chart that shows the responsible party and action required to release a controlled part or assembly.

7.4 Agile CMS Tool Features

This section describes the features of Agile. This section is organized in the same order and name as the tabs in Agile.

7.4.1 Part and Assembly Title Block

Agile is configured with a Title Block that will help users find the part and assemblies in the future. Every category in the Title Block is searchable.

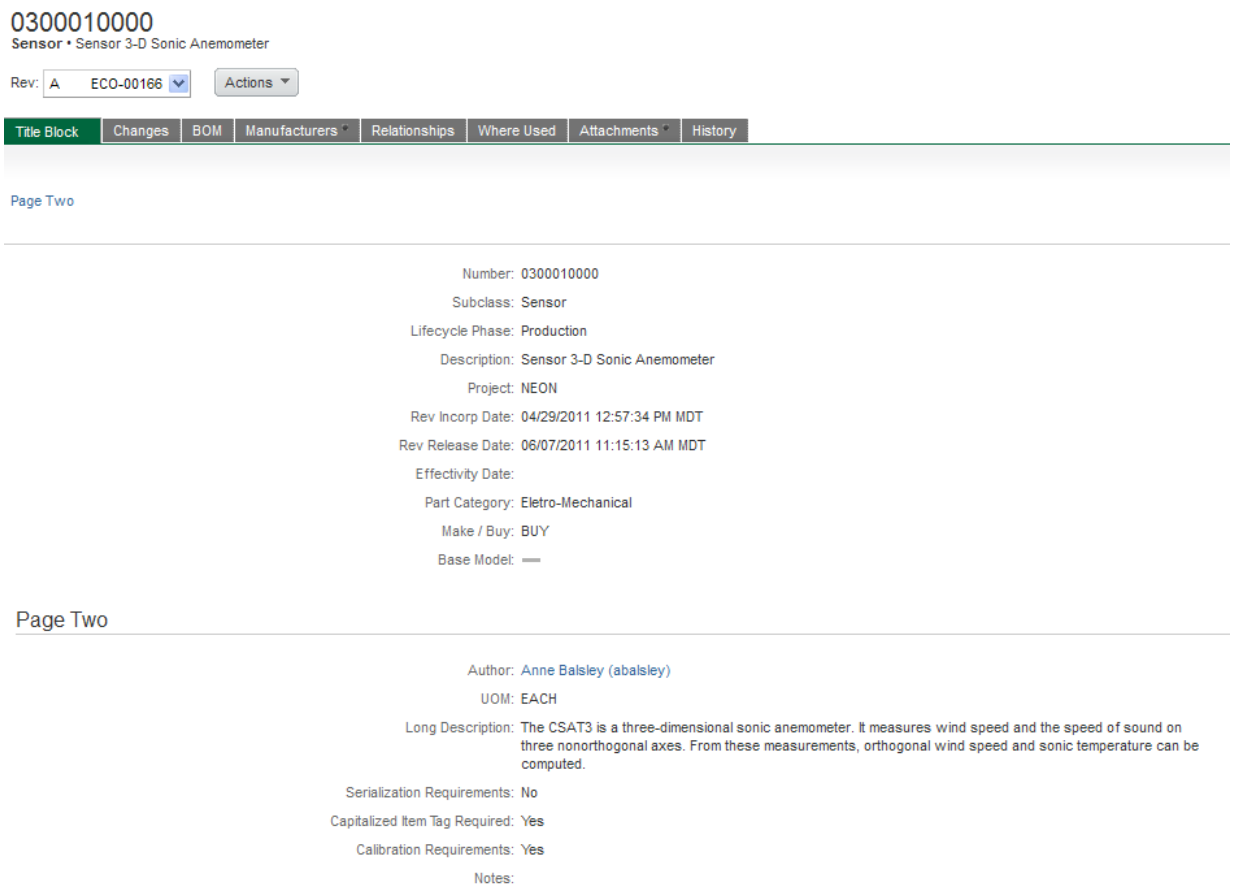


Figure 6: Part Title Block

7.4.2 Assembly Bill of Material (BOM)

An assembly Bill of Material (BOM) provides the configuration items associated with that assembly. They may be parts or documents. The BOM provides the Part Number, Description, Quantity, Unit of Measure and other Meta data. Note: Fixtures used to support calibration or testing of the product may or may not contain configuration items and therefore may not have an Agile Bill of Material.

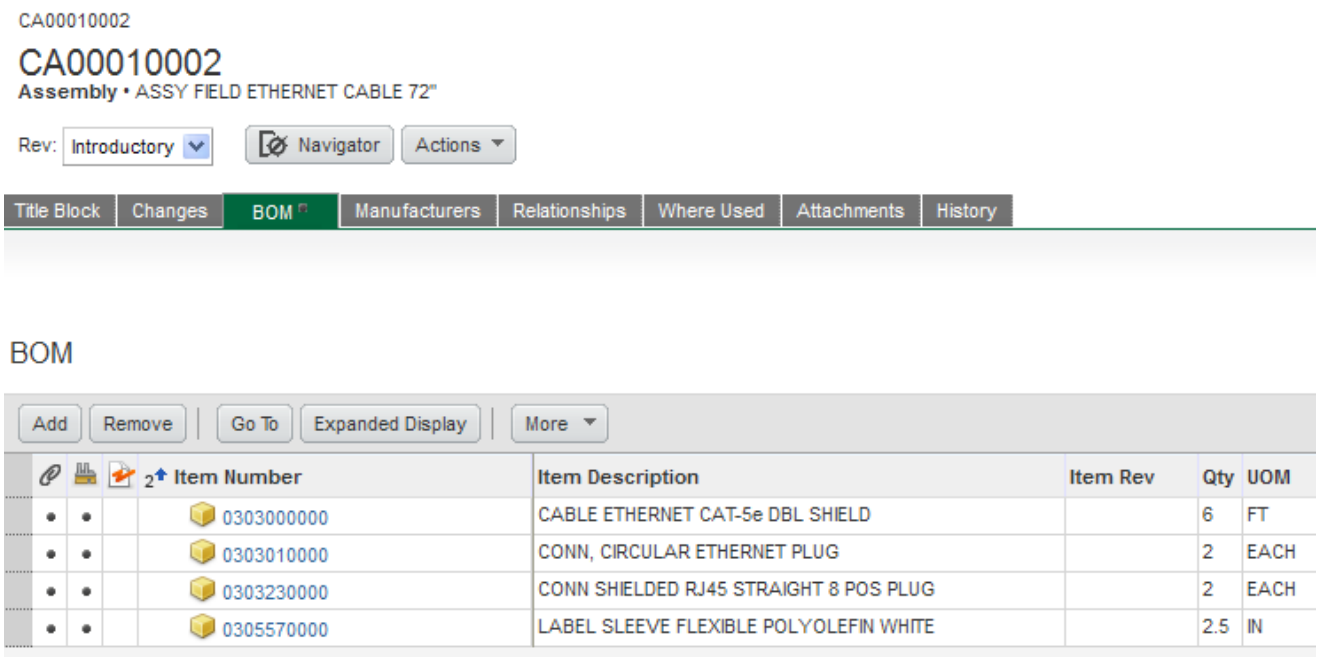


Figure 7: Assembly Bill of Material (BOM)

7.4.3 Part and Assembly Manufacturers

Agile is configured with a Manufacturers tab. The Manufacturers tab provides the Manufacturer Name, Manufacturer Part Number, and Manufacturer Part Description. Note: Manufacturer Data sheets are attached to the Manufacturer Part Number.

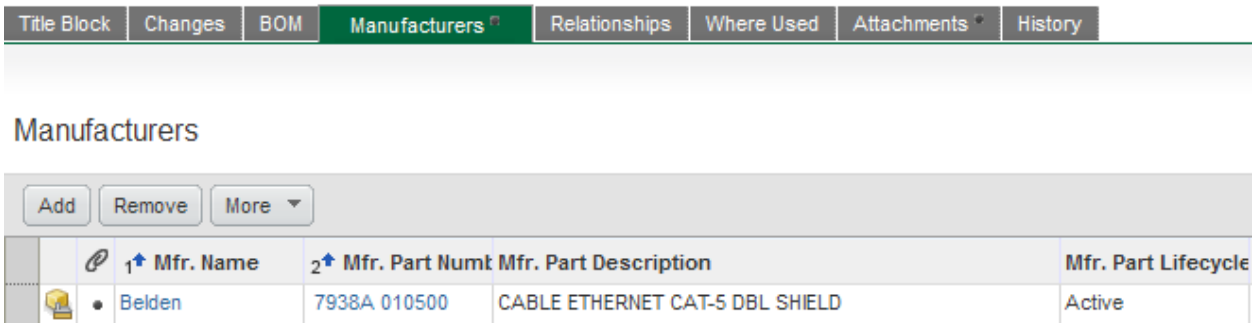
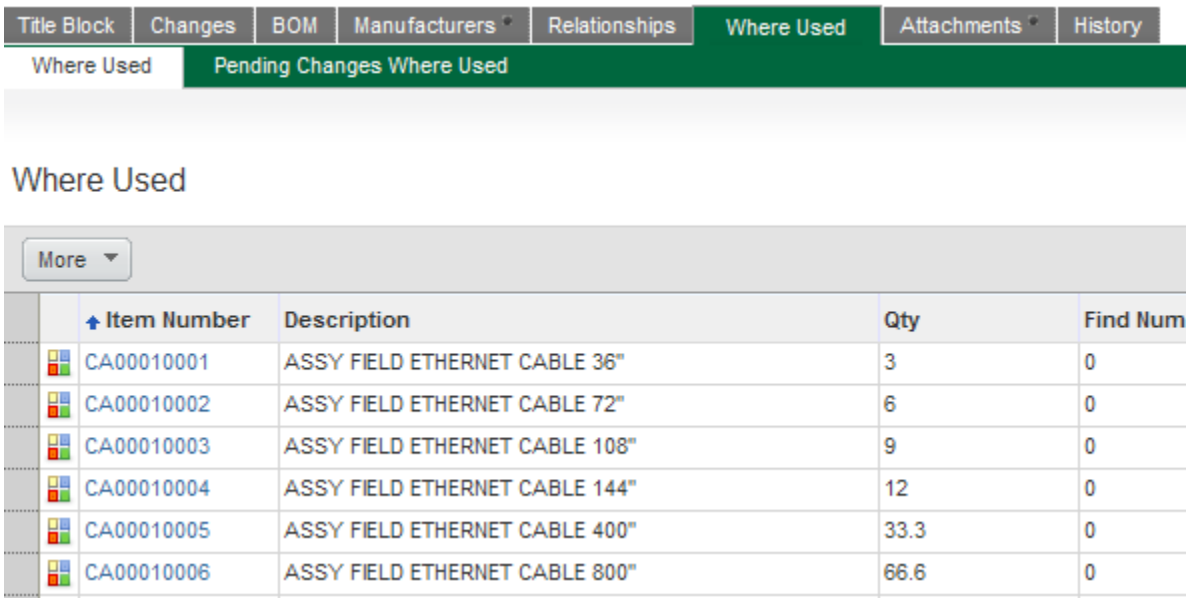


Figure 8: Manufacturers

7.4.4 Where Used

Agile is configured with a where used tab. This tab is useful when you are making a change to the part or assembly. It provides a quick way to see where the part or assembly is used and will help in determining the impact of the ECO.



Item Number	Description	Qty	Find Num
CA00010001	ASSY FIELD ETHERNET CABLE 36"	3	0
CA00010002	ASSY FIELD ETHERNET CABLE 72"	6	0
CA00010003	ASSY FIELD ETHERNET CABLE 108"	9	0
CA00010004	ASSY FIELD ETHERNET CABLE 144"	12	0
CA00010005	ASSY FIELD ETHERNET CABLE 400"	33.3	0
CA00010006	ASSY FIELD ETHERNET CABLE 800"	66.6	0

Figure 9: Where Used

7.4.5 Attachments

CM controlled attached Part Documentation and drawings in Agile shall be the following file name format which is equal to the part number.

Example: 03SSSS0000.pdf (No KIND)
Example: 03SSSS.pdf (With KIND)

The Naming convention for native files shall follow the same format as the PDF drawings with an addition. A "-XX" will be added at the end of the Document number noting the revision of the document. Two examples are shown below.
0300000000-01 (No KIND)
030000-03 (With KIND)

Non CM controlled supporting documents should be attached with a name that describes the document. (Example: Documents attached to the manufacturer part number)

8 NEON DOCUMENTS AND HARDWARE VARIANCES

If it is necessary to depart from a Document or Hardware released CM Item, a Deviation or Waiver may be used to document the Variance. Defined below are the differences between a Deviation and Waiver. Detailed in figure 10 is the workflow for Deviations and Waivers.

Deviation: A Deviation is required when a departure from approved product configuration definition information is needed for a specific number of units of the product or for a specific period of time. Information gathered is defined below:

- Deviation Number: 10 Digit Unique ID <DEV>-<automatically generated 6 digit number>
- Variance Basis: Location, Lot, Quantity, and Time

- Cause of Variance
- Corrective Action
- Variance Reason Code: Design Errors, manufacturing planning errors, material recall, production process issues, supplier faults, supplier part shortages
- Effective from and to Dates
- Scope: Lots, Qty, serial numbers (Example: Serial Number range x to y)

Waiver: A Waiver provides approval of a product or CM Item not built according to the required configuration and specifications. Information gathered is defined below:

- Waiver Number: 10 Digit Unique ID <WVR>-<automatically generated 6 digit number>
- Variance Basis: Location
- Cause of Variance
- Corrective Action
- Variance Reason Code: requirements not met
- Scope: locations affected (Example: Healy, Domain: 19 Taiga)

Deviations and Waivers follow the workflow as portrayed in the figure below and the system used is the Agile CMS. Once a variance is initiated the process consists of a CCB review that includes the Director of Engineering, Project Scientist, Director of Systems Engineering, PTL and Quality Manager.

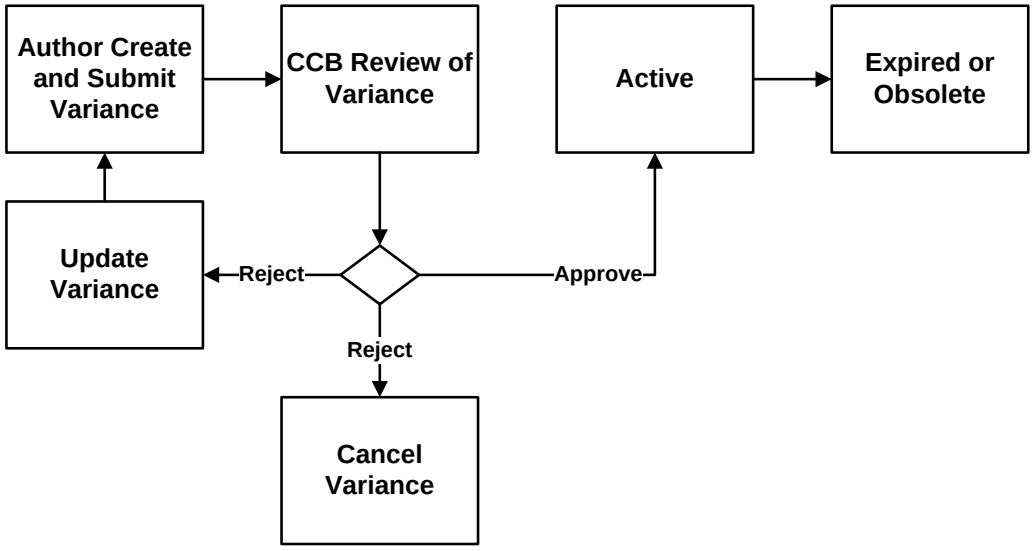


Figure 10: Deviations and Waiver Workflow

8.1 Author Create and Submit Variance:

Purpose: Document the need for a Variance
Responsible Role: NEON Staff
Steps Performed: Create Variance, Populate the relationships tab with the CM Item, and Submit Variance.

8.2 CCB Review of Variance

Purpose: Dispositions the Variance.
Responsible Role: Director of Engineering, Project Scientist, Director of Systems Engineering, and Quality Manager.
Steps Performed: Approves, Cancels, or requests update to the Variance

9 APPENDIX A: CONFIGURATION MANAGEMENT REVIEW AND RELEASE PROCESS – DOCUMENTS

The review and release process is fully defined in the Configuration Management Plan AD[01] but described in this procedure for reference. The release process is the action that makes documents officially available for use. The process consists of a Stakeholder and CCB review using the NEON ECO Process. Once a document is released using the NEON ECO Process it is officially available for use and published in the Document Warehouse. The Document Warehouse contains the latest revision. Below is a swim lane flow chart that shows the responsible party and action required to release a controlled document once the informal review is complete.

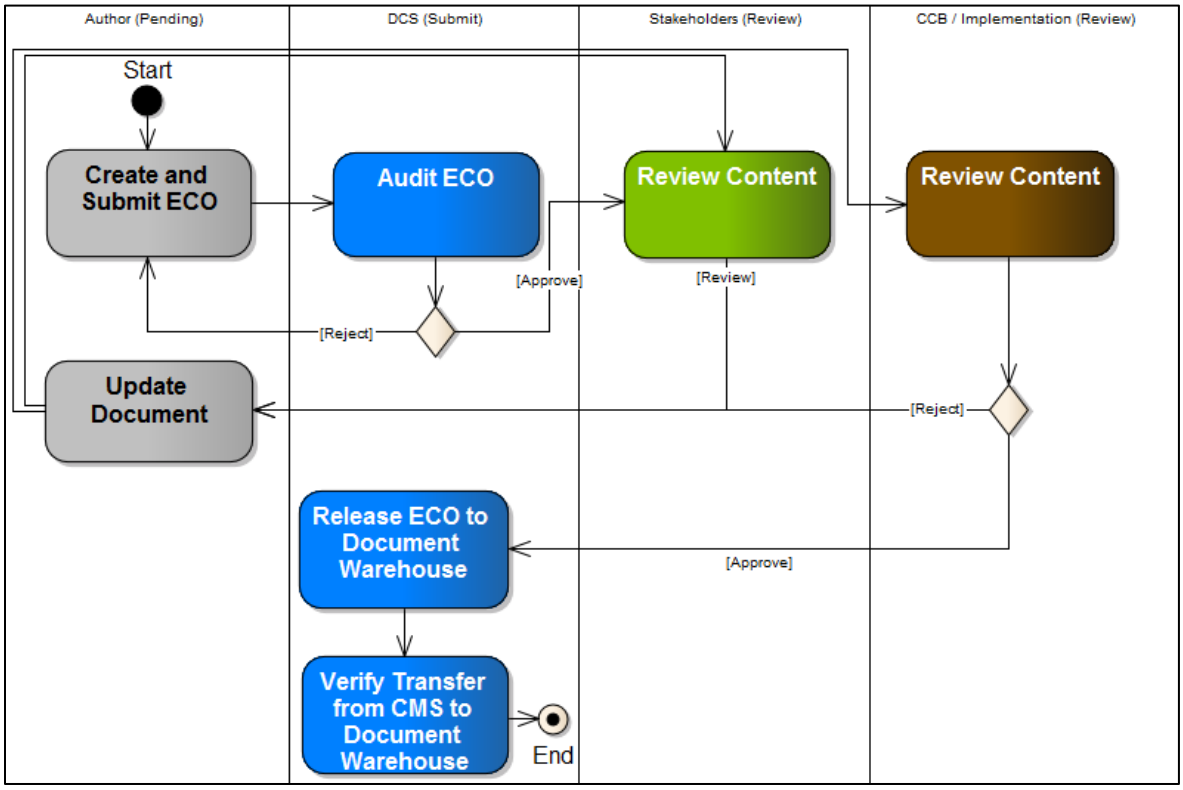
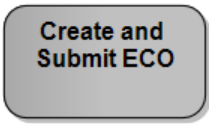


Figure 11: Document CM Process flow

9.1 Author Pending



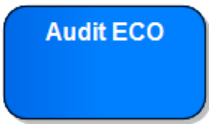
Workflow State: (Pending)
Purpose: Create an ECO which describes the requested change.
Responsible Role: Author / Originator
Steps Performed: Note: The information below is not intended to be a step by step guide on how to use Agile. Step by step guides can be found in Agile by typing help in the upper right search window. Once in the help folder click on the files tab to find the appropriate step by step guide.

1. Obtain a Document Number
2. Create document
3. Create ECO and attach document to ECO using the add search method.
4. Enter in Level of ECO. Reference Appendix C: ECO Levels.
5. Submit ECO with list of Stakeholder reviewers in the comments box

Information Entered:

1. Title Block Page in Agile for the document
2. Cover Page in Agile for the ECO
3. Affected Items Page in Agile for the ECO
4. Attachments Page in Agile for the ECO attach the document

9.2 Documentation Control Specialist (DCS) Submit

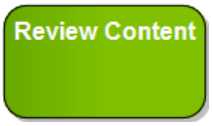


Workflow State: (Submit)
Purpose: The DCS reviews the ECO and modifies it if necessary.
Responsible Role: DCS
Steps Performed:

1. Reviews ECO for Relationship entry / verification
2. Reviews the ECO to make sure that it is accurate and complete. Enters additional information about the change that the originator may not have entered. Verifies that it contains all of the information that the reviewers will need in order to determine if their areas are impacted. Ensures all the correct stakeholders have been identified. Adds the CCB approvers.
3. Moves the ECO to the Stakeholder Review

Information Entered: Update necessary information

9.3 Stakeholder Review



Workflow State: (Review)

Purpose: To prepare the ECO for CCB review. At the completion of this step, all technical issues will have been resolved by the Author and the Stakeholders aka Technical Reviewers. All work that needs to be done in other areas, to support the ECO, will have been identified.

Responsible Role: Author and Stakeholders

Reviews: Reviews are performed online using Agile (Reference Figure 11 Stakeholder Process Flow below: The reviewer has 10 days to perform the review or transfer authority to another NEON staff member. If the reviewer has not approved in 10 days they will be moved to an observer of the ECO. At any stage of the review cycle anyone can request a formal meeting to clarify issues or concerns. Best Practices on commenting, editing, and check out / in can be found in Agile by typing help in the upper right search window. Once in the help folder click on the files tab to find the appropriate step by step guide.

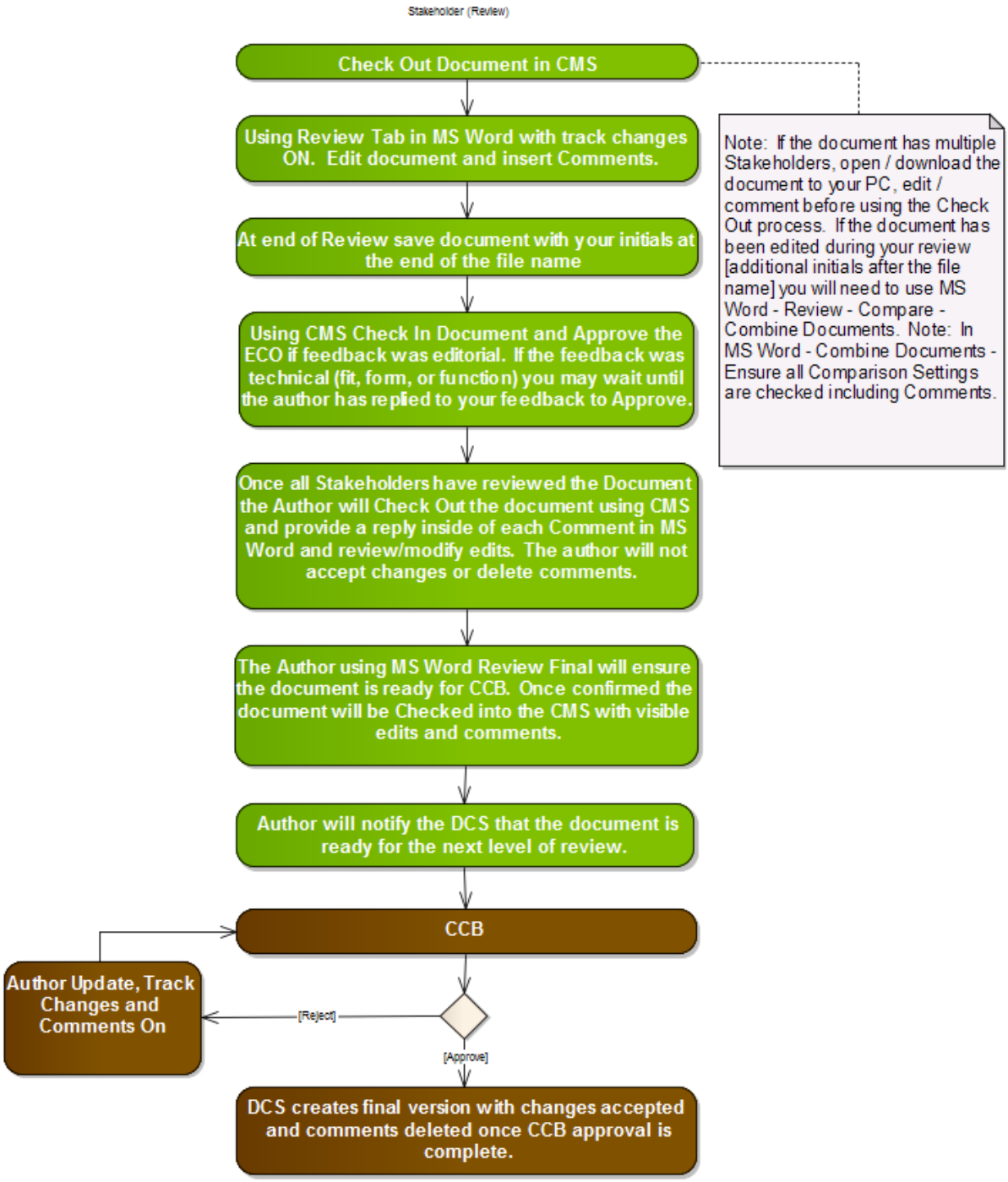


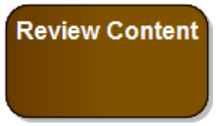
Figure 12: Stakeholder Process Flow

Steps performed by DCS: Monitors ECO and escalates to physical CCB if needed. The DCS will notify Stakeholders and provide a 24 hour review if significant changes are made to the document before moving the ECO to CCB review.

Steps performed by Author: Responds to any questions from the Stakeholder reviewers about the ECO and its associated tasks, and resolves all issues. If necessary, updates the document and ECO.
Steps performed by each Stakeholder:

1. Reviews the ECO per the checklist in Appendix D.
2. Using Agile approves the ECO.

9.4 CCB / Implementation Review



Workflow State: (Review)
Purpose: The CCB reviews the ECO and determines whether it can be approved, or whether some other action needs to be taken.
Responsible Role: DCS and CCB as defined in the NEON Configuration Management Plan RD [03].
Steps Performed by DCS: The DCS will notify Stakeholders and provide a 24 hour review if significant changes are made prior to releasing the ECO.
Steps Performed by each member of the CCB:

1. Review the ECO for affects on scope, schedule, cost, budget, performance, risk, form, fit or function.
2. Review the ECO to ensure Stakeholders comments were considered.
3. Using Agile approves or rejects the ECO.
4. The reviewer has 10 days to perform the review or transfer authority to another NEON staff.

9.5 DCS Released

Workflow State: (Released)
Purpose: Release documents officially available for use in Agile and Document Warehouse.
Responsible Role: DCS
Steps Performed:

1. Updates Document with ECO approval information
2. Updates the CM Item with the new ECO approved document.
3. Moves the ECO to the Released Status

9.6 DCS Implemented

Workflow State: Implemented
Purpose: Verify documents are available in the Document Warehouse.
Responsible Role: DCS
Steps Performed: Verify that only the latest revision of the document is in the Document Warehouse.

10 APPENDIX B: CONFIGURATION MANAGEMENT REVIEW AND RELEASE PROCESS - PARTS AND ASSEMBLIES

The review and release process is fully defined in the Configuration Management Plan AD[01] but described in this procedure for reference. The release process is the action that makes parts and assemblies officially available for use. The process consists of a Stakeholder and CCB review using the NEON Part & Assembly ECO Process. Once a part or assembly is released using the NEON Part and Assembly ECO Process it is officially available for use and exported to the OSS. Below is a swim lane flow chart that shows the responsible party and action required to release configuration controlled parts and assemblies:

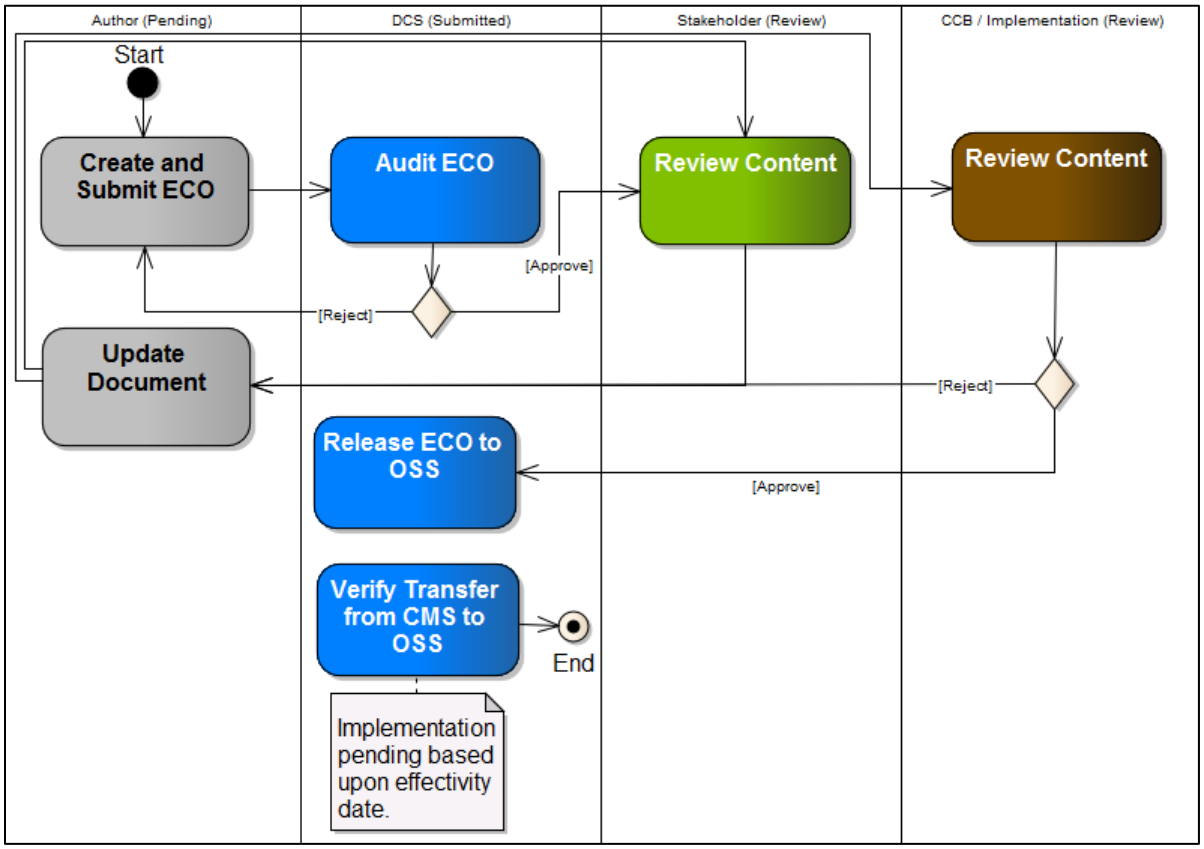
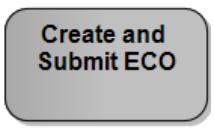


Figure 13: Parts and Assemblies CM Process flow

10.1 Author Pending



Workflow State: (Pending)
Purpose: Create an ECO which describes the requested change.
Responsible Role: Author / Originator

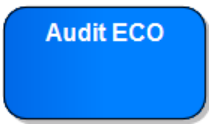
Steps Performed: Note: The information below is not intended to be a step by step guide on how to use Agile. Step by step guides can be found in Agile by typing help in the upper right search window. Once in the help folder click on the files tab to find the appropriate step by step guide.

1. Follow Steps in the Part Documentation Procedure RD[04]
2. Create new Manufacturer Parts
3. Create new Part or Assembly number
4. Create Part Documentation
5. Create new Part & Assembly ECO
6. Enter in Level of ECO. Reference Appendix C: ECO Levels.
7. Using Affected Items tab add parts. Note: A revision change of an upper level assembly does not change the associated part revisions. The part revision changes if something changed on the part and it is listed in the Affected Items of the ECO.
8. Using Affected Items tab enter in Revision. Reference Appendix E: Hardware Revision Rules
9. Using Affected Items tab enter in Lifecycle Phase
10. Using Affected Items tab enter disposition for Work In Progress, Finished Goods, Stock and Field. If necessary create a Nonconforming Material Report (NCR) and Reference the number in the Affected Items Notes. Reference the Material Review Board Procedure RD[06] for details on how to create a NCR.
11. If applicable, using Affected Items tab highlight part and redline the changes using the Title Block, BOM, Manufacturers, and Attachments tab.
12. Submit ECO with list of Stakeholder reviewers in the comments box
13. If applicable, notify drawing administrator that the specified drawing has been submitted for ECO and should be locked.

Information Entered:

1. Cover Page in Agile for the ECO. Description of Change, Reason for Change, Affected Items, Effectivity, Notes etc.
2. Note: NEON drawings will be updated with the correct revision after the ECO is CCB approved

10.2 Documentation Control Specialist (DCS) Submit

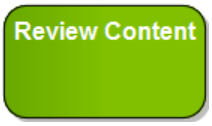


Workflow State: (Submit)
Purpose: The DCS reviews the ECO and modifies it if necessary.
Responsible Role: DCS
Steps Performed:

1. Reviews the ECO to make sure that it is accurate and complete. Enters additional information about the change that the originator may not have entered. Verifies that it contains all of the information that the reviewers will need in order to determine if their areas are impacted. Ensures all the correct stakeholders have been identified. Adds the CCB approvers.
2. Verifies affected items are listed in the ECO by auditing the Where Used Tab in Agile.
3. Audit affected items fields
4. Moves the ECO to the Stakeholder Review

Information Entered: Update necessary information

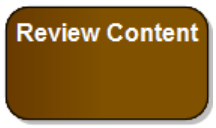
10.3 Stakeholder Review



Workflow State: (Review)
Purpose: To prepare the ECO for CCB review. At the completion of this step, all issues will be resolved by the Author. All work that needs to be done in other areas, to support the ECO, will have been identified.
Reviews: Reviews are performed online using Agile. The reviewer has 10 days to perform the review or transfer authority to another NEON staff member. If the reviewer has not approved in 10 days they will be moved to an observer of the ECO. At any stage of the review cycle anyone can request a formal meeting to clarify issues or concerns.
Responsible Role: DCS, Author, Procurement and Stakeholders
Steps performed by DCS: Monitors ECO and escalates to physical CCB if needed. The DCS will notify Stakeholders and provide a 24 hour review if significant changes are made before moving the ECO to CCB review.
Steps performed by Author: Responds to any questions from the Stakeholder reviewers about the ECO and its associated tasks, and resolves any issues identified by other technical reviewers. If necessary, updates the ECO.
Steps performed by Procurement:
If applicable verifies manufacturer and manufacturer part number.
Verifies Procurement Planning Process activities are complete per the Policies and Procedures Manual (PPM) and Procurement Contracts and Guidance Manual (PCGM).
Steps performed by each Stakeholder:

1. Reviews the ECO per the checklist in Appendix D.
2. Using Agile approves the ECO.

10.4 CCB / Implementation Review



Workflow State: (Review)
Purpose: The CCB reviews the ECO and determines whether it can be approved, or whether some other action needs to be taken.
Responsible Role: DCS and CCB as defined in the NEON Configuration Management Plan RD [03].
Steps Performed by DCS: The DCS will notify Stakeholders and provide a 24 hour review if significant changes are made prior to releasing the ECO.
Steps Performed by each member of the CCB:

1. Review the ECO for affects on scope, schedule, cost, budget, performance, risk, form, fit, function or interchangeability.
2. Review the ECO to ensure Stakeholders comments were considered.
3. Using Agile approves or rejects the ECO.

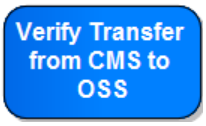
4. The reviewer has 10 days to perform the review or transfer authority to another NEON staff member.

10.5 DCS Released

Workflow State: (Released)
Purpose: Release Parts and Assemblies officially available for use in Agile and OSS.
Responsible Role: DCS
Steps Performed:

1. Updates Part Documentation with ECO approval information
2. Facilitates updating of NEON drawings with ECO and revision information.
3. Updates the CM Item with the new ECO approved documents.
4. Moves the ECO to the Released Status

10.6 DCS Implemented



Workflow State: Implemented
Purpose: Verify documents are available in the OSS.
Responsible Role: DCS, Procurement, Logistics, Manufacturing
Steps Performed by DCS: Verify that only the latest revision of the parts and assemblies are in the OSS. Verifies parts and assemblies disposition are complete and if a NCR exists the NCR actions are complete and the NCR is closed.
Steps performed by Procurement: If applicable communicates change to the manufacturer/subcontractor.
Steps performed by Logistics: Performs inventory actions defined in the ECO.
Steps performed by Manufacturing: Incorporates the change defined by the ECO and performs the appropriate first article and verification procedures.

11 APPENDIX C: ECO LEVELS

The ECO Levels are fully defined in the Configuration Management Plan AD[01] but described in this procedure for reference.

Level 1 Review (major) (greater than $100,000) applies to changes that have such a high impact on the scope, schedule, cost, budget, form, fit or function, interchangeability, performance and/or risk that it is greater than $100,000 and/or a change to a level 1 milestone in the schedule of more than two (2) months.

Level 2 Review (greater than $10,000) applies to changes that have impact on the scope, schedule, cost, budget, form, fit or function, interchangeability, performance and/or risk that it is greater than $10,000 or 25% of original estimate for the item and/or more than two (2) weeks but less than two (2) months.

Level 3 Review (less than $10,000) applies to changes that have impact on the scope, schedule, cost, budget, form, fit or function, interchangeability, performance and/or risk that it is less than $10,000 or less than 25% of original estimate for the item and/or less than two (2) weeks shift in an activity or level three (3) milestone and form, fit or function.

Level 4 Review (minor changes/initial release) applies to changes that do not affect the scope, schedule, cost, budget, performance, risk, form, fit, function or interchangeability. An example of this type of change would be grammatical corrections.

Level 5 Review (Draft/Prototype) applies to changes that do not affect the scope, schedule, cost, budget, performance, risk, form, fit, function or interchangeability. An example of this type of change would be for a field protocol that has not been used or tested or prototype parts prior to the production intent release.

12 APPENDIX D: STAKEHOLDER CHECKLIST

1. Verifies NEON ECO Process is being used for documents and NEON part & assembly ECO process is being used for parts and assemblies.
2. Reviews the ECO and its associated tasks to determine impact of the reviewer's area.
3. If the ECO requires work to be done in the reviewer's area and is not already detailed in the ECO, the reviewer contacts the DCS to update the ECO.
4. Reviews the "Stakeholder" list and may request to the DCS to add reviewers that may be affected by the change.
5. Verifies contents of the attachments are the same as the fields in Agile.
6. If applicable use the Check Out / Check In process to edit or comment on the attachments.
7. If applicable use Agile to comment on the ECO.
8. Using Agile approve the ECO. The CCB will ensure all edits and comments were addressed.

13 APPENDIX E: HARDWARE REVISION RULES

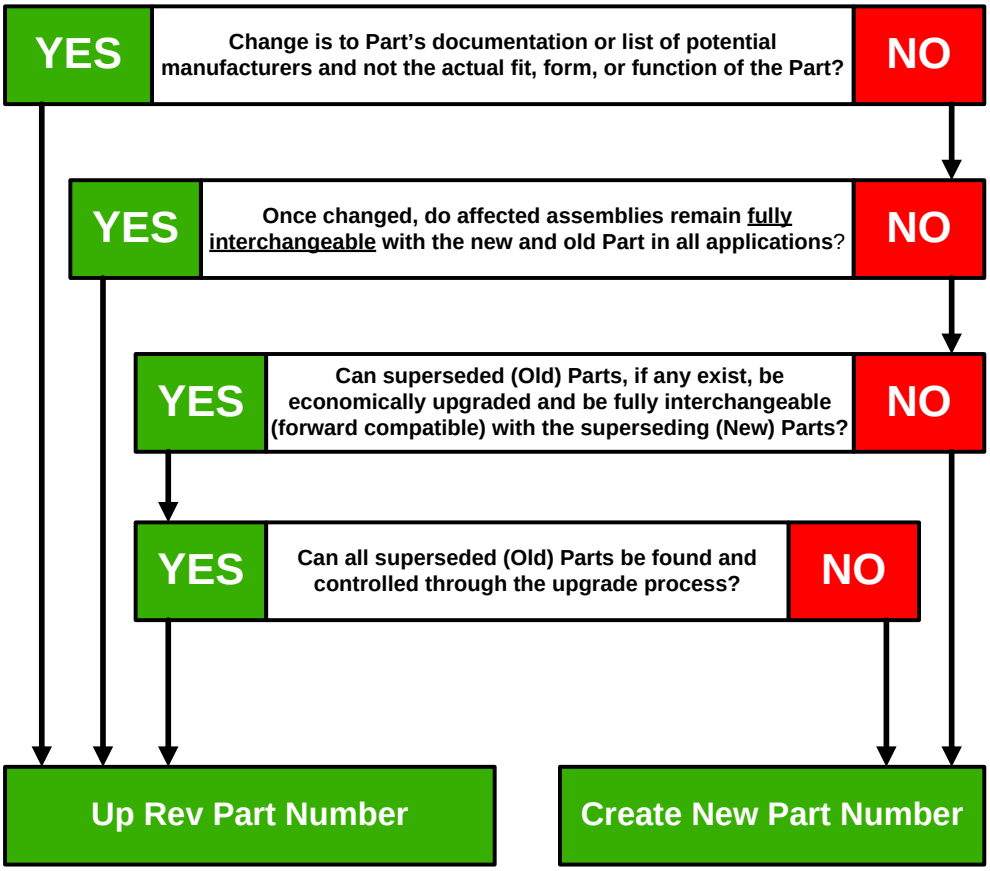


Figure 14: Rules of Interchangeability Decision Matrix

Note: If the revision of a part changes all affected assembly BOMs will automatically be updated to include the latest revised part. The affected assembly's revision will not change however; the affected assembly's revision will change if there is a part number change on the BOM.