APPENDIX A

Configuration Change Management
Concepts, Principles, and Guidance
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A1. Introduction

A1.1. This Appendix provides Configuration Change Management (CCM) document concepts, principles, and guidance for the evaluation of each type of CCM document. This Appendix supplements DCMA-INST 217, “Configuration Change Management” Instruction.

A1.2. This Appendix uses base document number when referencing external documents. A document revision indicator is used when citing information within that document. The latest revision should always be used when gathering information on a particular item or process.

A1.3. The CCM Instruction was developed using guidance available in MIL-HDBK-61, “Configuration Management Guidance”. MIL-HDBK-61 provides Configuration Management (CM) Acquirer guidance and should be used to supplement the CCM Instruction. MIL-HDBK-61 identifies the CCM process as the Configuration Control process (MIL-HDBK-61, Figure 4-1). The function of CCM is to provide Configuration Control of Configuration Items (CIs). Note: MIL-HDBK-61 is handbook designated for guidance only and should not be cited as a contract requirement (see MIL-HDBK-61 Title page statement or “Foreword”).

A1.4. SAE EIA-649, “Configuration Management Standard,” is an industry CM standard and has been adopted by the DoD. SAE EIA-649 is a guidance document that establishes industry best practices through the use of cites CM principles. SAE EIA-649 specifically identifies CCM as a process supported by CCM principles. MIL-HDBK-61 identifies SAE EIA-649 as a reference.

A1.5. SAE EIA-649-1 “Configuration Management Requirements For Defense Contracts” is an industry CM standard specifically designed and developed for placing CM requirements on Defense Contracts after being tailored by the Acquirer (see the “Foreword”). SAE EIA-649-1 was developed to apply SAE EIA-649 CM Principles in a defense environment (domestic and internationally). SAE EIA-649-1 is a standalone document and is not dependent on SAE EIA-649.

A1.6. Engineering Change Proposal (ECP) DD Form 1692, with the adjoining instruction sheets, provides Suppliers a usable example of an ECP form. DD Form 1692 has 7 sheets plus a continuation sheet. Suppliers can use this DoD DD Form format or construct their own form. A Supplier constructed ECP form should use the fields found on DD Form 1692 and have the form Acquirer approved. A Notice of Revisions (NOR) (DD Form 1695, or similar form), if used, may accompany the ECP form. A NOR identifies the number of Configuration Documentation (CD) scheduled for revision after ECP approval. (See MIL-HDBK-61A, Section 6.4.)

A1.7. Configuration Approval Authority (CAA) introduced by SAE EIA-649-1 is a synonym for CCM Instruction, Chapter 2, Table 1, Configuration Change Authority (CCA). SAE EIA-649-1 CAA is used within and should serve as a replacement for CCA.
A2. Configuration Change Management Document Guidance

The following material provides guidance to the DCMA Engineer when evaluating all types of ECPs.

A2.1. Refer to SAE EIA-649/649-1 and MIL-HDBK-61 for a discussion and definitions of CD.

A2.2. Budgetary pressures, warfighter needs and DoD Directive 5000.02, have caused a shift in the DoDs’ approach to acquiring defense related products or Configuration Items (CIs). Instead of developing Acquirer-unique products, items such as Non-Developmental Items (NDI) and Commercial Items or Commercial Off-The-Shelf (COTS) are encouraged in acquisition programs. Refer to Appendix C, “CM Guidance for Integration of High Intensity Commercial-Off-The-Shelf Products” in MIL-HDBK-61 for additional guidance. COTS are identified as Acquirer Defense Acquisition Guidebook (DAG), Chapter 4, Design Consideration. (See DAG for additional information on COTS.) These NDI and COTS products are then referenced in ECPs as components and subcomponents of CIs. Acquirer [ECP] challenges in the use of NDI and Commercial Items include:

A2.2.1. Acquirer product design changes to Commercial Items product design, or its documentation, cannot be accomplished without incurring significant cost. The Acquirer may request that the Commercial Item Supplier make a change, however, the Supplier is not mandated to make that change.

A2.2.2. Without appropriate contract provisions, the Commercial Item Supplier has complete CCM and CAA over the items.

A2.2.3. The Commercial Items supplier can change the item's attributes (performance, functional, and physical) and associated CDs without prior Acquirer approval or notification.

A2.2.4. The Commercial Items supplier may add features at any time, even though these changes may not be compatible with the Acquirer’s technical or operational requirements.

A2.3. Terminologies used to describe ECPs may differ between the Acquirers and Suppliers. A Class I and Class II ECP may also be recognized as a Major and a Minor, respectfully. Other common ECP synonyms include: (1) Request for Change, (2) Change Order, and (3) Engineering Change Notice/Design Change Notice (ECN/DCN). ECNs and DCNs usually apply to the internal Supplier Configuration control process managed by the Supplier Configuration Control Boards (CCBs).

A2.4. The integration of CM and with System Engineering and Logistics is provided in MIL-HDBK-61A, paragraphs 4.2.2 and 4.2.3, “Relation to System Engineering Process” and “Relation to Logistics Process”. SAE EIA-649 has similar references.
A3. **Class I, Engineering Change Proposal Guidance**

The following provides guidance to DCMA Engineers in the evaluation of Class I ECPs. ECP topics for Class I ECPs included the CI modernization and upgrade. Class I ECPs have impact to a configuration controlled baseline because of performance, costs or schedule changes associated.

A3.1. A Class I ECP is an engineering change prepared and issued by a Supplier or Supplier CCB. The Configuration Approval Authority (CAA) for Class I ECPs is the Acquirer who dispositions (approves or disapproves) the ECP. Usually, the Acquirer has knowledge well in advance of the Supplier releasing the Class I ECP because of the funding required for its implementation. When the Acquirer approves the ECP, the Supplier implements the changes and the Configuration (product) baseline, as applicable, is updated with the changes detailed in the Class I ECP.

A3.2. CD’s (requirement specifications, software code, drawings) represents form, fit, function, and interface of the product CI. The collection of these CD’s together is known as a baseline usually identified as the approved product (program) baseline, or product Configuration baseline. When this approved product/program configuration baseline is required to be changed or modified, a Class I ECP is required.

A3.3. The SAE EIA-649/649-1 and MIL-HDBK-61 (CCM or Configuration Control processes), represents the methods used to incorporate the Class I ECP changes into the approved program configuration baseline. The approval and incorporation of a Class I ECP change into the baseline results in the creation of a new configuration baseline for the product CI. Based on the severity or degree of change, the DCMA Engineer may be required to modify their current Engineering Surveillance Plan to satisfy the newly created product Configuration baseline. Refer SAE EIA-649/649-1 and MIL-HDBK-61 for a full discussion and definition of configuration baselines.

A3.4. The process for evaluating Class I ECPs is identified in Figure A-1. Appendix B, Configuration Change Management Document Checklist, provides a checklist to assist in evaluating the class of a proposed ECP. The figure also identifies Appendix C, Configuration Change Management Verification and Validation Procedures, that provides procedures for the verification and validation of ECPs.

**A4. Class I, Value Engineering Change Proposal Guidance**

The following paragraphs provide DCMA Engineers with guidelines and procedures on evaluating Class I ECPs for Value Engineering (VE) opportunities. If a VE ECP is proposed in the ECP is described as a Value Engineering Change Proposal (VECP).

A4.1. A Class I VECP is a proposal submitted by a Supplier under stated contract VE requirement clauses that, through a change in the contract, would provide cost savings to the
Supplier and lower the program or program life-cycle cost to the Acquirer without impairing essential functions or performance. The VECP serves as the contract change requirement document for the contract modification that describes the savings.

A4.2. The VE approach targets analyzing product CI functions. This product function approach includes analyzing systems, equipment, facilities, services, and supplies for the purpose of achieving a lower life-cycle cost while satisfying required CI performance, reliability, quality, and safety. VE initiatives are designed to have long term benefits for both the Acquirer and the Supplier at reducing cost. Note: The Acquirer timeline to disposition Supplier submitted VECPs is 45 days in accordance with Federal Acquisition Regulation (FAR) 52.248-1(e) (1).

A4.3. Public Law (PL) Paragraphs 111-340, establishes VE and enacts United States Code (USC), Title 41, Section 1711 (41 USC 1211, 1711), that states each executive agency shall establish and maintain cost-effective VE procedures and processes. Office of Management and Budget (OMB), Circular Number A-131, “Value Engineering”, directs Federal Departments and Agencies to use VE as a management tool, where appropriate, to reduce program and acquisition costs. Department of Defense Instruction, Number 4245.14, implements 41 USC 1211, 1711 OMB Circular Number A-131.
A4.4. FAR 48-1 needs to be cited in contracts for VE to be instituted in contracts while FAR 52.248-1 describes VECP definitions, policies, procedures, and timelines. Note: In the event the VE clause is not cited in the contract and needs to be added, contact the DCMA Administrative Contracting Officer (ACO) to add the necessary contract VE clauses.

A4.4.1. FAR 52.248-1 identifies requirements concerning mandatory and voluntary VE participation. Mandatory Supplier VE participation suggests DCMA Engineers integrate VE into their DCMA Engineering Surveillance Plan as identified in the CCM Instruction Chapter 3, Procedures.

A4.4.2. The Supplier should not initiate action to implement any VECP process or procedure until receiving formal VECP approval from the Acquirer.

A4.5. When the contract contains VE clauses (FAR 52.248-1 and FAR 48), the DCMA Engineer should encourage, promote, and confirm the Supplier is aware of VE benefits and the contract VE clauses. The DCMA ACO and the Acquirer may brief the Supplier on VE benefits when the contract contains VE clauses (FAR 48 and FAR 52.248-1). This suggested presentation can take place during the Post Award Orientation Conference.

A4.6. The ECP “Cost Reduction” letter “R” Justification Code should not be confused with the “Value Engineering” letter “V” VECP justification Code. Supplier ECPs labeled with a Cost Reduction Justification Code “R” means the ECP, as proposed, to provide net total life cycle cost savings to the Acquirer. MIL-HDBK-61A, Table 6-3, or the instructions for ECP DD Form 1692, provides the ECP Justification Codes with an explanation of each code. The process for evaluating Class I VECPs is identified in Figure A-2. Appendix B, Configuration Change Management Document Checklist, provides a checklist to assist in evaluating the proposed VECP. The figure also identifies Appendix C, Configuration Change Management Verification and Validation Procedures, that provides the procedure for verification and validation VECPs.

A5. Class II, Engineering Change Proposal Guidance

The following material provides guidance to DCMA Engineers in the evaluation of Class II ECPs.

A5.1. A Class II ECP is an engineering change issued and approved for release by a Supplier or Supplier CCB.

A5.2. The CAA for Class II ECP is determined by the Contract or referenced by the contract. The contract should also state the agent/activity for performing Class II ECP classification reviews. DCMA Engineers should perform Contract Receipt and Engineering Review to determine the agent/activity for performing Class II ECP classification reviews. If the contract is silent for determining Class II ECP classification reviews the DCMA Engineer should contact the Acquirer through the ACO to obtain permission. The Acquirer may or may not have Class II ECP knowledge of DCMA involvement in ECP classification reviews. DCMA involvement in Class II ECP classification reviews always requires written authorization either
through contact, Standard of Procedure (SOP) or Memorandum of Agreement/Understanding (MOA/MOU). The Supplier is the usual CAA for Class II ECPs, however in some cases the Acquirer may be identified as CAA.

A5.3. The Class II ECP generally should further define an accepted Supplier product design or process. The Class II ECP implementation should not change the Acquirer-owned property or the approved product Configuration baseline. Class II changes are termed as Minor and should have no impact to contract budgets or funding. The ECP Class II checklist in Appendix B provides DCMA Engineers guidance in determining the appropriate classification.

A5.4. Class II ECPs allow the Supplier to be in control of the content project. This means the Supplier is in control of program and more importantly the program Configuration Baseline. The inadvertent or sometimes deliberate misclassification or downgrading of proposed Class I ECPs to Class II will inevitably result in costly acquisition and logistical problems, especially in the areas of logistics support (i.e., spares, repair parts and supply/support) because of loss baseline control. An ECP improperly/incorrectly classified can cause serious issues for users and give rise to significant CM problems. CM issues include a Configuration baseline that is no longer representative of the CI being produced or logistic spare/repair parts in the supply system that do not test, perform, repair, or fit, as needed. MIL-HDBK-61A, paragraph 6.1, “Configuration Control Activity” states the importance of Configuration control (last paragraph).

A5.5. The process for evaluating Class II ECPs is identified in Figure A-3. Appendix B provides a checklist to assist in evaluating the proposed ECP. The figure also identifies Appendix C, that provides the required ECP verification and validation procedures.
Figure A-1. Class I, Engineering Change Proposal Checklist Process

START

CONTRACTOR ISSUES ECP TO DCMA ENGINEER WITH CLASS I CLASSIFICATION

DCMA ENGINEER EVALUATES THE ECP CLASS I IAW THE CHECKLIST IN APPENDIX B, PARAGRAPH B2.0. (SECTIONS I-VII)

SECTION I
IS ECP CODED EMERGENCY, URGENT OR SAFETY?

YES

SECTION I
DCMA ENGINEER CONFIRMS RECEIPT OR SENDS ECP IMMEDIATELY TO ACQUIRER FOR REVIEW

NO

SECTION I
IS ECP CODED AS A CLASS I VECP?

YES

SECTION I
DCMA ENGINEER CONFIRMS RECEIPT OR SENDS ECP IMMEDIATELY TO ACQUIRER FOR REVIEW

NO

SECTION I
IS ECP CODED AS A CLASS I VECP?

YES

EVALUATE VECP IAW APPENDIX B, VECP CHECKLIST (PARAGRAPH B3.0)

NO

SECTION II
IS ECP VERIFIED AS A CONFIGURATION DOCUMENT?

YES

SECTION IV
DOES THE ECP REPRESENT A VE OPPORTUNITY?

NO

SECTION IV
ACO/DCMA ENGINEER DISCUSSES VE OPPORTUNITY WITH ACQUIRER AND CONTRACTOR

YES

SECTION IV
DOES THE ECP REPRESENT A VE OPPORTUNITY?

NO

SECTION IV
ACO/DCMA ENGINEER COORDINATES VE OPPORTUNITY WITH ACQUIRER BY SENDING COMMENTS/DISPOSITION RECOMMENDATION

SECTION III
DOES THE ECP DATA PACKAGE SATISFY REQUIREMENTS FOR A CLASS I ECP?

YES

SECTION V
DCMA ENGINEER COORDINATES WITH ACQUIRER BY SENDING ACQUIRER CLASS I ECP COMMENTS/DISPOSITION RECOMMENDATION

NO

SECTION III
DOES THE ECP DATA PACKAGE SATISFY REQUIREMENTS FOR A CLASS I ECP?

YES

SECTION VI
DCMA ENGINEER RECORDS ECP AND ACQUIRER DISPOSITION RESULTS IN ECP/RFV TRACKING LOG

NO

SECTION V
DCMA ENGINEER COORDINATES WITH ACQUIRER BY SENDING ACQUIRER CLASS I ECP COMMENTS/DISPOSITION RECOMMENDATION

SECTION VII
DCMA ENGINEER PERFORMS ECP CLASS I VALIDATION IAW APPENDIX C

END

NOTES:
1. ACRONYM DEFINITIONS ARE LOCATED IN THE GLOSSARY.
2. REFERENCED SECTION NUMBERS ARE LOCATED IN THE APPENDIX B, CCM DOCUMENT CHECKLIST.

SECTIONS II AND III
DCMA ENGINEER ISSUES CAR AND RETURNS ECP TO CONTRACTOR FOR CORRECTION/CANCELLATION, NOTIFIES ACQUIRER ACCORDINGLY

DCMA PROCESS INTEGRATING WITH CCM INSTRUCTION
Figure A-2. Class I, Value Engineering Change Proposal Checklist Process

START

CONTRACTOR ISSUES VECP TO DCMA ENGINEER WITH CLASS I CLASSIFICATION

DCMA ENGINEER EVALUATES THE VECP CLASS I IAW THE CHECKLIST IN APPENDIX B, PARAGRAPH B3.0. (SECTIONS I-VI)

SECTION I

DOES ACQUIRER HAVE A COPY OF VECP DATA PACKAGE?

YES

SECTION II

IS VECP VERIFIED AS A CONFIGURATION DOCUMENT?

YES

SECTION IV

DCMA ENGINEER COORDINATES WITH ACQUIRER BY SENDING ACQUIRER VECP CLASS I COMMENTS/DISPOSITION RECOMMENDATION

SECTION V

DCMA ENGINEER RECORDS VECP AND RECOMMENDED ACQUIRER DISPOSITION RESULTS IN ECP/RFV TRACKING LOG

SECTION VI

DOES THE CONTRACT CONTAIN MANDATORY VALUE ENGINEERING REQUIREMENTS?

YES

SECTION VII

DCMA ENGINEER INCLUDES CONTRACT MANDATORY VALUE ENGINEERING REQUIREMENTS IN THEIR SURVEILLANCE PLAN

NO

DCMA PROCESS INTEGRATING WITH CCM INSTRUCTION

END

NOTES:
1. ACRONYM DEFINITIONS ARE LOCATED IN THE GLOSSARY.
2. REFERENCED SECTION NUMBERS ARE LOCATED IN THE APPENDIX B, CCM DOCUMENT CHECKLIST.

DCMA ENGINEER CONFIRMS RECEIPT OR SENDS VECP IMMEDIATELY TO ACQUIRER FOR REVIEW

DCMA ENGINEER ISSUES CIO AND RETURNS VECP TO CONTRACTOR FOR CORRECTION/CANCELLATION, NOTIFI

SECTIONS II AND III

DCMA ENGINEER ISSUES CIO AND RETURNS VECP TO CONTRACTOR FOR CORRECTION/CANCELLATION, NOTIFIES ACQUIRER ACCORDINGLY

DCMA ENGINEER EVALUATES THE VECP CLASS I IAW THE CHECKLIST IN APPENDIX B, PARAGRAPH B3.0. (SECTIONS I-VI)

DCMA ENGINEER CONFIRMS RECEIPT OR SENDS VECP IMMEDIATELY TO ACQUIRER FOR REVIEW

DCMA ENGINEER COORDINATES WITH ACQUIRER BY SENDING ACQUIRER VECP CLASS I COMMENTS/DISPOSITION RECOMMENDATION

DCMA ENGINEER RECORDS VECP AND RECOMMENDED ACQUIRER DISPOSITION RESULTS IN ECP/RFV TRACKING LOG

DCMA ENGINEER INCLUDES CONTRACT MANDATORY VALUE ENGINEERING REQUIREMENTS IN THEIR SURVEILLANCE PLAN

DCMA PROCESS INTEGRATING WITH CCM INSTRUCTION

DCMA ENGINEER EVALUATES THE VECP CLASS I IAW THE CHECKLIST IN APPENDIX B, PARAGRAPH B3.0. (SECTIONS I-VI)

DOES ACQUIRER HAVE A COPY OF VECP DATA PACKAGE?

YES

DOES THE VECP DATA PACKAGE SATISFY REQUIREMENTS FOR A VECP?

NO
Figure A-3. Class II, Engineering Change Proposal Checklist Process

START

Does the contractor have approval authority for Class II ECPS? NO

DCMA not involved in ECP Class II process, provides validation IAW section VIII

YES

Contractor issues ECP to DCMA engineer with Class II classification

DCMA engineer evaluates the ECP Class II IAW the checklist in Appendix B, paragraph B3.0 (Sections I-VIII)

Section I: Is ECP coded as a Class I VECP?

YES

Section I: DCMA engineer sends ECP Class II immediately to acquirer for review

NO

Evaluate VECP IAW Appendix B, VECP checklist (paragraph B3.0)

Section I: Is ECP coded as a Class I VECP?

YES

Section I: DCMA engineer issues CAR and returns ECP to contractor for classification correction or cancellation

NO

Section I: DCMA engineer issues CAR and returns ECP to contractor for correction/cancellation

Section II: Does the ECP represent a VE opportunity?

YES

DCMA engineer coordinates VE opportunity with acquirer by sending comments/disposition recommendation

NO

Section III: DCMA engineer evaluates the ECP Class II IAW the checklist in Appendix B, paragraph B3.0 (Sections I-VIII)

Section II: Is ECP verified as a configuration document?

YES

Section IV: Is Class II the correct ECP classification?

YES

Section V: DCMA engineer "conclus" with Class II ECP classification

NO

Section V: DCMA engineer returns dispositioned Class II ECP to contractor for program incorporation

YES

Section V: DCMA engineer returns dispositioned Class II ECP to contractor for correction/cancellation

Section V: DCMA engineer returns dispositioned Class II ECP to contractor for correction/cancellation

Section III: Does the ECP represent a VE opportunity?

YES

ACO/DCMA engineer discusses VE opportunity with acquirer and contractor

NO

Section V: DCMA engineer "conclus" with Class II ECP classification

Section V: DCMA engineer returns dispositioned Class II ECP to contractor for correction/cancellation

End

Notes:
1. Acronym definitions are located in the Glossary.
2. Referenced section numbers are located in the Appendix B, CCM Document Checklist.