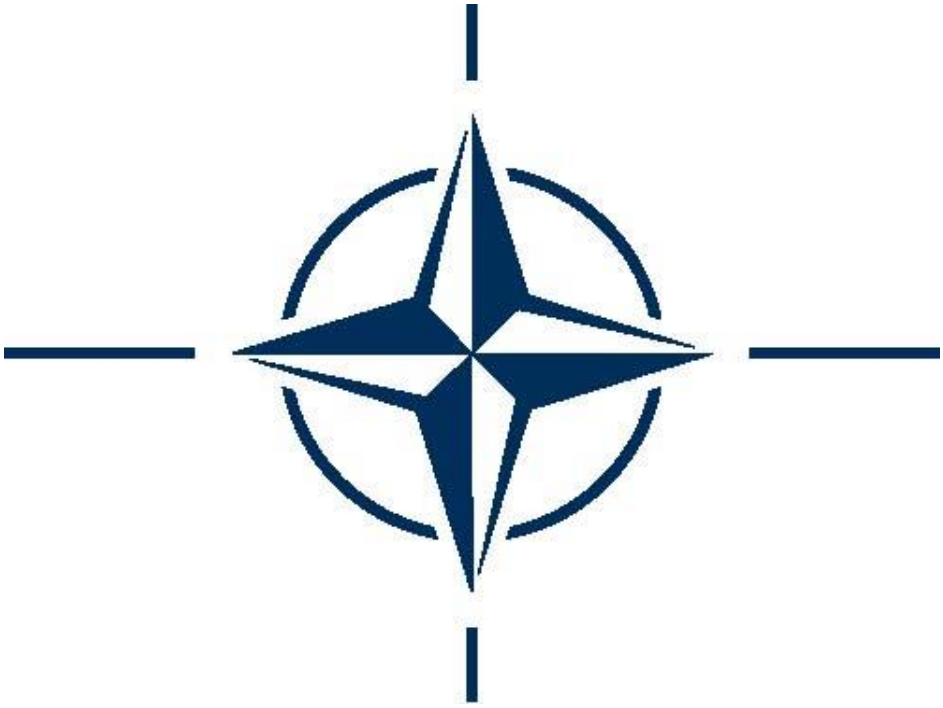
STANDARDS RELATED DOCUMENT

ACMP-2009-SRD-40

PREDEFINED LEVELS OF CM REQUIREMENT BUILD-UP

Edition A Version 1
MARCH 2017



NORTH ATLANTIC TREATY ORGANIZATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

6 March 2017

1. The enclosed Standards Related Document, ACMP-2009-SRD-40, Edition A Version 1, PREDEFINED LEVELS OF CM REQUIREMENT BUILD-UP, which has been approved in conjunction with ACMP-2009, by the nations in the AC/327 Life Cycle Management Group, is promulgated herewith.

2.

3. This publication shall be handled in accordance with C-M(2002)60.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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ACMP-2009-SRD-40

PREDEFINED LEVELS OF CM REQUIREMENT BUILD-UP

Predefined Tables of Selected additional Configuration Management Requirements (CMRs)

As a supplement and aid to users of ACMP-2100 and ACMP-2009, this publication contains examples of CM ambition levels matched with build-up clauses, as well examples of using national or other standards, all using the style of the matrix with additional CMRs provided in Annex D.

Two forms contain pre-defined versions of limited additional requirements, based on past NATO program experiences and subject matter expert inputs, sized for nominal intensity CM efforts.

ACMP-2009-SRD-40.1	Light visibility needs
ACMP-2009-SRD-40.2	Medium visibility needs
ACMP-2009-SRD-40.3	Heavy visibility needs

There is also a customizable blank form for users who operate in a different CM environment:

ACMP-2009-SRD-40.4	Table of Customized additional Configuration Management Requirements

NOTES:

1. The level of visibility is not the same as the complexity or the cost of the SOI, or of the contract.
2. For Heavy visibility needs, make your selection from the full set of CMRs in ACMP-2009-SRD-40.3 (the Word format version of Annex D).

Procedure for using the **ACMP-2009-SRD-40.n** templates:

Step 1: Assess and select applicable additional contractual CMRs by filling out an “X” in the column “Applies” along with any necessary clarifications, references, or changes in the “Change or Clarification” column to make the requirement clear and concise.

Step 2: Remove all the non-applicable CMRs so the matrix only contains the applicable additional contractual CMRs.

Step 3: Insert ACMP-2100 and the chosen matrix from Step 2 into the contract. In this case, the Step 2 matrix will be **ACMP-2009-SRD-40.n** (where *n* is 1, 2, 3 or 4)

Step 4: In the introduction to the inserted requirements, insert the statement:

“The Supplier shall execute Configuration Management in accordance with ACMP-2100, and the matrix ACMP-2009-SRD-40.n with additional configuration management requirements”

Customizable Tables of Selected additional Configuration Management Requirements

Acquirers who have already identified the set of additional, build-up CMRs that their enterprise processes or programme and contracts require, may transcribe the selected ACMP 2009 clauses, or those from any other sources (such as EIA-649-1) into the blank format of ACMP-2009-SRD-40.4. This approach is encouraged to maintain a consistent NATO interface with industry.

AC/327 will gladly append this SRD with additional examples that nations or organizations would like to offer.

ACMP-2009-SRD-40.1

Pre-defined Table of Selected additional Configuration Management Requirements

LIGHT VISIBILITY NEEDS

#	***Build Up Clause***	***Change or Clarification***	***Applies***
0	ACMP-2100 Applies (to all contracts)		
1.1	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **capability requirements** or definitions		
1.2	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **functional** requirements or definitions, and any changes to them		
2.1	The Acquirer reserves the right to disapprove the Supplier's CM Plan when it fails to meet requirements		
2.8	The Acquirer is the final dispositioning authority on Interface Requirements which must be controlled by the Government		
5.10	The Supplier shall establish the Functional Baseline (FBL) each CI.		
5.12	The Supplier shall establish the Allocated Baseline (ABL) for each CI		
5.14	The Supplier shall establish the Product Baseline (PBL) for each CI		
5.19	The Supplier shall ensure that the configuration documentation defining the Configuration Baselines required in this contract, are mutually consistent and mutually compatible. NOTE: Each succeeding level of configuration documentation from the FBL to the ABL to the PBL shall be traceable to, and be a detailed extension of, its predecessor(s).		
6.20	If the Supplier determines, prior to manufacture of an item, that it is impossible to satisfy the mandatory requirements of the specification or drawings, the Supplier shall have a procedure for preparing and submitting an RFD to the Acquirer.		
6.21	If the Supplier determines, either during or after manufacture of an item, that the item does not meet specified requirements, but nevertheless believes that the item is suitable for use "as is" or after rework by an approved method, the contractor shall have a procedure for preparing and submitting an RFW to the Acquirer.		
6.28	The Supplier shall provide a representative to the Interface Control Working Group (ICWG) who is responsible for all interface actions and agreements.		
7.9	In order to continue CSA during the in-service phase, the Supplier shall transfer the CSA database to the Acquirer or parties indicated by the Acquirer. The means and format of transfer of this data shall be as described in REFERENCE		
8.1	**The Supplier shall be responsible for conducting the Functional Configuration Audits (FCA)**		

8.15	For Computer Software Configuration Items (CSCI), in addition to the previous requirements, the Supplier shall review database characteristics, storage allocation data and timing, and sequencing characteristics for compliance with specified requirements.		
9.1	**The Supplier shall be responsible for conducting the Physical Configuration Audits (PCA)**		
9.7	The Supplier shall ensure that differences between the actual configuration of the CI being audited and the configuration described in the CI configuration documentation shall be a matter of record in the minutes of the PCA.		
10.2	The Supplier shall be responsible for ensuring that subcontractors, vendors, and suppliers participate in audits, as appropriate. The contractor shall make possible the attendance of representatives from the Multinational Joint Projects		
11.1	After completion of the audit(s), the Supplier shall publish and distribute copies of audit minutes. The Acquirer will officially acknowledge completion of the audit as indicated in REFERENCE		

ACMP-2009-SRD-40.2

Pre-defined Table of Selected additional Configuration Management Requirements

MEDIUM VISIBILITY NEEDS

#	***Build Up Clause***	***Change or Clarification***	***Applies***
0	ACMP-2100 Applies (to all contracts)		
1	**Configuration management responsibility**		
1.0	**Responsibilities and authorities**		
1.1	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **capability requirements** or definitions		
1.2	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **functional** requirements or definitions, and any changes to them		
1.3	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the form, fit and function of the product		
1.4	The Acquirer delegates responsibilities and authorities to the Supplier on configuration decisions that DO NOT impact the capabilities and functions to be realized		
1.5	The Acquirer reserves the right conduct surveillance of the Supplier's CM process		
1.6	Configuration Control Board (CCB) All proposed changes (e.g. ECP, RFD, RFW) shall be submitted and authorised by the Supplier's CCB prior to submission to the Acquirer. The Supplier's CCB shall be defined in the Supplier's Configuration Management Plan (CMP).		
2.0	**Dispositioning authority**		
2.1	The Acquirer reserves the right to disapprove the Supplier's CM Plan when it fails to meet requirements		
2.2	The Acquirer, when submission is required, will disposition the Supplier's Configuration Management Plan		
2.3	The Acquirer will disposition the selection of CI's		
2.4	The Acquirer is the final dispositioning authority on configuration/engineering changes		
2.5	The Acquirer is the final dispositioning authority on contractually required baselines		
2.6	The Acquirer is the final dispositioning authority on contractually required audits		
2.7	The Acquirer is the final dispositioning authority on parts substitution and variances		
2.8	The Acquirer is the final dispositioning authority on Interface Requirements which must be controlled by the Government		

2.9	Classification of ECP-The Supplier shall submit Class I ECP for approval and Class II changes for either concurrence in classification, or approval, to the Acquirer. The Supplier shall submit ECP to the Acquirer in accordance with the requirements of the contract (e.g. number of copies, data medium, etc.).		
3	**Configuration management process**		
3.0	**General**		
3.1	The Supplier shall identify the means by which continuity of effort and understanding is achieved between his sub-suppliers and himself, and between the Acquirer and himself and internally within his organization, for the allocated CI, integrating, interfacing or otherwise related CI, Supplier organizations, test and evaluation activities, and managers;		
4.0	**Configuration management planning**		
4.2	The information described in the following paragraphs shall be included in the CMP: Organization. This section of the CMP shall outline the relationship and integration of the Supplier's project management and CM organizations and describe the organizational relationship of the individuals and activities involved in the CM program. The responsibilities of each individual or group shall be defined as well as the policy directives that govern the contractors CM program. Configuration Identification and Documentation. This section shall describe the methods to be used for identifying (e.g., naming, marking, numbering) documents and physical items (CI) Methods to achieve configuration traceability from requirements to equipment, components, computer software, facility sites and spares shall also be described. Requirements for the preparation, submission and subsequent release of Acquirer approved documentation which defines each of the required baselines shall also be described in this section. The Supplier's methods under which the documentation will be prepared and released internally shall also be described.		
5.0	**Configuration identification**		

5.1	The Supplier shall recommend a structured list of potential CI(s) to the Acquirer, using the selection criteria specified below. The final selection of CI shall be made by the Acquirer. Criteria for selection of CI shall include, but not be limited to: a. Safety of personnel and/or equipment; b. Criticality, complexity, and state-of-the-art, high cost items; c. Critical performance or operational effectiveness; d. Functionality and performance; e. Interface with other systems, government or sub-contractor furnished items, NATO standard items and support equipment; f. Integrated logistic support; g. Applications that effect a delivered product; h. Reliability and maintainability; i. Organization, management and responsibility considerations; j. Second sourcing; and k. Susceptibility to change.		
5.3	The Supplier's identification numbering system shall be used to assign a unique identifier to each CI and its associated documentation. Configuration Identification shall identify the documents that establish each baseline. The identification process will continue as long as the system is undergoing change.		
5.4	The Supplier shall serialise like items, or groups (lots) of like items. The Serial / Lot Numbers shall be unique, consecutive, and non-duplicating for all items with a specific nomenclature. The original Serial Number of a unit/item/CI shall not be changed even when a change affecting interchange ability may require rework and reidentification. Once assigned, Serial Numbers shall not be reused for the same item/CI.		
5.6	The Supplier shall assign nomenclature in accordance with guidelines provided by the Acquirer REF.		
5.7	Non-Developmental Items identified as CI, when modified to satisfy project requirements, shall be re-identified as a project modified CI, and documented and controlled in accordance with the requirements of the contract.		
5.8	For each CI, the Supplier shall develop and maintain configuration identification documentation. The Supplier shall document the functional and physical characteristics of all selected CI. The Supplier shall recommend to the Acquirer, the types of Configuration Documentation that shall be used to establish each CI. a. The Supplier shall obtain a NATO Commercial and Government Entity (NCAGE) Code. b. The Supplier shall also obtain the NATO Stock Number (NSN) for items designated for NATO re-procurement.		
5.9	For each Computer Software Configuration Item (CSCI), the Supplier shall identify its Computer Software Components (CSC) and Computer Software Units (CSU).		
5.10	The Supplier shall establish the Functional Baseline (FBL) each CI.		

5.11	The functional configuration documentation for a system shall be in the form of a system specification(s) or a prime item development specification(s) for a single item plus other applicable documentation. The functional configuration documentation shall also identify the documentation for selected items that are to be integrated or interfaced with the CI such as items separately developed or currently in the inventory. Functional configuration documentation shall include but are not limited to: a. All necessary functional characteristics; b. Test requirements; c. The necessary interface characteristics with associated items; d. Key lower level CI, if any; and e. Design constraints.		
5.12	The Supplier shall establish the Allocated Baseline (ABL) for each CI		
5.13	The ABL shall meet the functional requirements allocated in the FBL. The development configuration documentation shall be in the form of development specification(s), referenced interface control documents, and other applicable documentation. Development configuration documentation shall include but are not limited to: a. The functional characteristics that are allocated based on the functional baseline; b. The tests required to demonstrate achievement of those functional characteristics; c. The necessary interface characteristics with associated CI; and d. Design constraints.		
5.14	The Supplier shall establish the Product Baseline (PBL) for each CI		
5.15	The product configuration documentation shall be in the form of product, material, and process specifications, engineering drawings and other technical documentation for the CI that satisfactorily reflects the requirements of ABL and FBL. Product configuration documentation shall include but not be limited to:a. All necessary physical and functional characteristics of CI;b. Selected functional characteristics designated for production acceptance testing;c. Production acceptance test; andd. PCA and FCA documentation.		
5.16	The Supplier shall identify each baseline by: (1) The baseline item CI number; (2) Baseline type; and (3) System designation.		

5.19	The Supplier shall ensure that the configuration documentation defining the Configuration Baselines required in this contract, are mutually consistent and mutually compatible. NOTE: Each succeeding level of configuration documentation from the FBL to the ABL to the PBL shall be traceable to, and be a detailed extension of, its predecessor(s).		
5.20	The Supplier shall control and maintain the approved configuration documentation for each baseline.		
5.21	The Supplier shall submit the complete configuration documentation for each baseline.		
5.22	The Supplier shall establish a Start of Contract Baseline (SCB) that reflects the configuration information at the start of the contract, and make it available to the Acquirer 30 days after contract award. In addition, the Supplier shall establish an End of Contract Baseline (ECB) that reflects the configuration information at the end of the contract, and make it available to the Acquirer 30 days before contract conclusion.		
6.0	**Change control**		
6.1	**Engineering Change Proposals (ECP)** The Supplier shall prepare and process an ECP for engineering, design, development changes, and shall classify and submit to the PM. Review and disposition the approved engineering changes in the CI and in its configuration documentation, update status accounting records, distribute change documentation, and verify change implementation. a. NOTE: Similar steps apply to RFD and RFW while only some steps apply to preliminary ECP (see 6.4).		
6.2	An ECP shall be a Class I if: a. The Functional Baseline (FBL) or Allocated Baseline (ABL), once established, is affected to the extent that any of the requirements are not within specified limits or specified tolerances; b. The Product Baseline (PBL), once established, is affected or the change impacts one or more of the following: (1) Government Furnished Equipment (GFE); (2) Safety (to include safety critical software); (3) Security; (4) Deliverable computer software; (5) Compatibility or interoperability with interfacing items; (6) Delivered operational and maintenance manuals; (7) interchangeability or replaceability; or (8) skills, manning, training, biomedical factors or human engineering design; andc. any of the contractual factors are affected, such as costs, guarantees, warranties, deliveries or scheduled contractual milestones.		
6.3	Class II ECP address all changes not classified as Class I.		

6.4	The Supplier shall assign one of the following priorities to each Class I ECP. The Supplier's proposed priority will stand unless the Acquirer has a valid reason for changing the priority. a. Emergency Priority. An Emergency Priority shall be assigned to an Engineering Change Proposal (ECP) for either of the following reasons: (1) to effect a change in operational characteristics which, if not accomplished without delay, may seriously compromise security; or (2) to correct a hazardous condition which may result in fatal or serious injury to personnel or in extensive damage or destruction of equipment. b. Urgent Priority. An Urgent Priority shall be assigned to an ECP for any of the following reasons: (1) to effect a change which, if not accomplished expeditiously, may seriously compromise the mission effectiveness of deployed equipment or forces; or (2) to correct a potentially hazardous condition; the uncorrected existence of which could result in injury to personnel or damage to equipment; or (3) to meet significant contractual requirements (e.g., when lead time will necessitate slipping approved production, or deployment schedules if the change was not incorporated); or (4) to effect an interface change which, if delayed, would cause a schedule slippage or increase cost; or (5) to effect life cycle cost savings to the nations involved. c. Routine Priority. A Routine Priority shall be assigned to an ECP when emergency or urgent is not applicable.		
6.5	**Authorization of Class I ECP**. Prior to implementing the change, the Supplier shall seek Acquirer approval of Class I ECP		
6.6	**Authorization of Class II ECP**. the Supplier shall submit the Class II ECP to the Acquirer, for concurrence in the classification only, prior to or concurrent with, the release of the Class II change into contract production.		
6.7	**Authorization of Class II ECP**. Prior to implementing the change, the Supplier shall seek Acquirer approval of Class II ECP		
6.8	**Processing Times for Class I ECP**. Target Processing Times for ECP shall be agreed to between the Supplier and the Acquirer		

6.12	**Parts Substitutions** Substitution of a non-repairable part identified by the Acquirer as an authorized substitute or superseding part shall not require a Class I Engineering Change or a Request for Deviation or Waiver, unless otherwise specified in the contract. a. Substitution of a non-repairable part for an item for which the Supplier has configuration documentation custody shall not require a Class I or Class II engineering change or a request for deviation/waiver when: (1) The part is identified as an authorized substitute or superseding part in a military specification or standard; and (2) The part will not be installed in equipment to be submitted for verification and reliability demonstration tests. b. For an item for which the Supplier has configuration documentation custody, a Class II Engineering Change shall be required when the part substitute is determined to be a preferred part over the original. c. A Class II Engineering Change will be required for all items for which the contractor does not have configuration documentation custody. d. Parts substitutions which do not meet the requirements stated in REF and for which a permanent change is not desired, shall require submission of a Request for Deviation or Waiver. e. All parts substitutions shall be recorded in an Interchange ability and Substitute Items list reflecting the relationships between the parts.		
6.14	**Classified Data** Classified data, essential to the evaluation and disposition of an ECP, shall be submitted separately in accordance with the approved NATO security procedures REF	REFERENCE	
6.20	If the Supplier determines, prior to manufacture of an item, that it is impossible to satisfy the mandatory requirements of the specification or drawings, the Supplier shall have a procedure for preparing and submitting an RFD to the Acquirer.		
6.21	If the Supplier determines, either during or after manufacture of an item, that the item does not meet specified requirements, but nevertheless believes that the item is suitable for use "as is" or after rework by an approved method, the contractor shall have a procedure for preparing and submitting an RFW to the Acquirer.		
6.22	Concurrent with the preparation of an ECP, the Supplier shall prepare an NOR for each drawing, associated list, specifications and other non-specification type documents (comprising the configuration identification for an item) which would require revision if the ECP were approved. NOR shall be attached to their related ECP		
6.23	**Engineering Release System**. The Supplier shall establish and maintain an Engineering Release System and shall use the system to issue configuration documentation and to authorize the use of configuration documentation associated with an approved configuration. The Supplier shall maintain current and historical Engineering Release information for all configuration documentation of all configuration items and their component parts.		

6.24	**Engineering Release Record (ERR)**. The Supplier shall utilize an “Engineering Release Record” to release new or revised configuration documentation to the Acquirer for approval. The Acquirer approved configuration documentation will be used for all Supplier and Acquirer activities. The Supplier shall also ensure that information about the newly released and approved configuration documentation is incorporated into the Configuration Status Accounting Information system.		
6.25	**Maintenance of Associated Documentation**. The Supplier shall establish a library to store Test Data, Test Procedures and Test Plans and implement procedures for controlling the library.		
6.26	**Interface Requirements.** The interface requirements for a system and its configuration items shall be identified as part of the system engineering process. Those Interface Requirements, which must be controlled by the Acquirer during the development of a system, shall be incorporated into the Functional Baseline (FBL) and or Allocated Baseline (ABL) as applicable. Such interface requirements defined in baseline specifications shall be subject to the configuration control requirements of this REF.	REFERENCE	
6.27	Prior to the Product Baseline (PBL), the Supplier shall be responsible for defining and controlling all compatibility and interoperability among the various hardware and software components for which he has the design activity responsibility and between those components and the interfaces or components specified in the baseline configuration documentation.		
6.28	The Supplier shall provide a representative to the Interface Control Working Group (ICWG) who is responsible for all interface actions and agreements.		
6.29	The Supplier shall establish a Software Development Library (SDL) and implement procedures for controlling the software residing within the SDL.		
7.0	**Configuration status accounting**		
7.1	The Supplier shall be responsible to acquire, deliver and provide access to the configuration information necessary to support the life-cycle stages of the programme that are subject to the contract.		
7.2	The Supplier, at the commencement of the project, shall propose a CSA system for the project that satisfies the Acquirer and meets all contractual requirements. CSA information and reporting systems shall be suitable to address the needs of all PAP stages appropriate to the contract and as such be tailored if necessary. At the commencement of each project PAP stage, CSA shall be reviewed against the needs of that stage. CSA shall be ready to accept data and provide the required information not later than the milestones specified in the contract		

7.3	Data Elements. The Supplier shall utilize data elements to be able to: a. Identify the current, approved configuration documentation, and identifier associated with changes; b. Record and report the status of proposed engineering changes from initiation to release; c. Record and report the results of configuration audits, including the status of identified discrepancies and action items; d. Record ad report the status of deviations; e. Provide traceability of design and reconciliation of product configurations; f. Track configuration identifiers including serial or lot numbers; g. Record and report test data, test results and test procedures; and h. Prepare CSA records and reports, unless otherwise specified in the contract. If a need arises for data elements not included therein, the contractor shall identify the data element to the Acquirer along with a proposed definition.		
7.4	The Supplier shall identify a focal point for the CSA system to interface with the Acquirer concerning potential or actual problems or deficiencies detected as a result of reviewing the output.		
7.6	The Supplier shall allow the Acquirer or his designates to access the CSA system. The communication method, periodicity and means for access to be used shall be as Specified in the contract (REFERENCE).		
7.7	The CSA database shall also include the identification of all proprietary or restricted data and the CI to which each agreement applies		
7.8	The Supplier shall retain a complete CSA historical record. Such historical information shall be formatted and maintained in such a manner that it can be readily copied, in total or in specific elements as identified by the Acquirer (REFERENCE).		
7.9	In order to continue CSA during the in-service phase, the Supplier shall transfer the CSA database to the Acquirer or parties indicated by the Acquirer. The means and format of transfer of this data shall be as described in REFERENCE		
7.10	The Supplier shall provide, to the satisfaction of the Acquirer, explanations and training on the interpretation of each CSA data output.		
8.0	**Configuration audit**		
8.1	**The Supplier shall be responsible for conducting the Functional Configuration Audits (FCA)**		
8.2	The Supplier shall conduct the FCA on the CI, which is representative of the configuration to be released for production. When a prototype or pre-production article is not produced, the contractor shall conduct the FCA on the first production article. FCA may be conducted on a progressive basis. For cases where CI qualification can only be determined through integrated system testing, FCA for such CI will not be considered complete until integrated testing is complete.		

8.4	The Supplier shall develop a checklist that identifies documentation, hardware and computer software to be available and tasks to be accomplished at the FCA for the CI.		
8.5	The Supplier shall review all updates to previously delivered documents to ensure accuracy and consistency throughout the documentation set.		
8.6	The Supplier shall document the physical configuration of the CI for which the test data are verified.		
8.7	The Supplier shall ensure that all test reports; procedures and data used for the FCA shall be made a matter of record of the FCA minutes		
8.8	The Supplier shall ensure that test data essential to manufacturing are included on, or furnished with, the CI documentation.		
8.9	The Supplier shall provide the following testing information for the FCA: a. Test plans, specifications, descriptions, procedures and reports for the CI; b. A complete list of accomplished functional tests (successful or not); c. A complete list of functional tests required by the specification but not yet performed; and d. Detailed test results.		
8.10	The Supplier shall ensure that the testing accomplished with the approved test procedures and the validated test data (witnessed) shall be sufficient to ensure CI performance and quality assurance provisions/qualification requirements are satisfied as set forth in the specification.		
8.12	The Supplier shall perform retests or additional tests to assure compliance with testing information for the FCA.		
8.13	The Supplier shall review the interface requirements and the testing of these requirements for CI.		
8.14	The Supplier shall examine the Preliminary and Critical Design Review minutes to ensure that all findings have been incorporated and completed.		
8.15	For Computer Software Configuration Items (CSCI), in addition to the previous requirements, the Supplier shall review database characteristics, storage allocation data and timing, and sequencing characteristics for compliance with specified requirements.		
9.1	**The Supplier shall be responsible for conducting the Physical Configuration Audits (PCA)**		
9.2	The Supplier shall conduct the PCA for a new production item on the first article of its kind of the production line. For those items that are a re-procurement of a CI already in the inventory, the Supplier shall conduct the PCA on an item identified and selected jointly by the Acquirer and the Supplier.		

9.3	The Supplier's conduct of the PCA shall include a detailed audit of; engineering drawings, specifications, technical data and tests utilized in production of hardware CI (HWCI) and a detailed audit of design documentation, listings, and manuals for CSCI. The PCA shall also include an audit of the released engineering documentation and quality control records to make sure the as-built or as-coded configuration is reflected by this documentation. For computer software, the Software Product Specification and Version Description Document shall be subject to the PCA.		
9.5	The Supplier shall review all records of baseline configuration for the CI by direct comparison with the appropriate engineering release system and change control procedures to establish that the configuration being produced does accurately reflect released engineering data. This includes interim releases of spares provisioned prior to PCA to ensure delivery of currently configured spares.		
9.6	The Supplier shall identify any difference between the physical configurations of the unit selected for the PCA and the unit used for the FCA and shall certify or demonstrate to the Acquirer that any difference does not degrade the functional characteristics of the selected units.		
9.7	The Supplier shall ensure that differences between the actual configuration of the CI being audited and the configuration described in the CI configuration documentation shall be a matter of record in the minutes of the PCA.		
9.9	The following minimum information shall be recorded for each drawing reviewed: a. Drawing number/title (include revision letter); b. Date of drawing approval; c. List of manufacturing instruction sheets (numbers with change letter/titles and date of approval) associated with this drawing; d. Discrepancies/comments; and e. The results of selecting a sample of part numbers reflected on the drawing, checking to ensure compatibility with the Parts Selection List, and examining the CI to ensure that the proper parts are actually installed.		

9.10	As a minimum, the Supplier shall accomplish the following inspections for each drawing and associated manufacturing instruction sheets:a. Drawing number identified on manufacturing instruction sheet shall match latest released drawing;b. List of materials on manufacturing instruction sheets shall match materials identified on the drawing;c. All special instructions called on the drawing shall be on the manufacturing instruction sheets;d. All dimensions, tolerances, finishes, etc, called out on the drawing shall be identified on the manufacturing instruction sheets;e. All special processes called out on the drawing shall be identified on the manufacturing instruction sheets;f. Nomenclature descriptions, part numbers and serial number markings called out on the drawing shall be identified on the manufacturing instruction sheets;g. All drawings and associated manufacturing instruction sheets shall be reviewed to ascertain that all approved changes have been incorporated into the configuration item;h. The release record shall be checked to ensure all drawings reviewed are identified;i. The number of any drawings containing more than five outstanding changes attached to the drawing shall be recorded; andj. The drawings of a major assembly of the hardware configuration item shall be checked for continuity from top drawing down to piece-part drawing		
9.11	The Supplier shall present data confirming the inspection and test of sub-Supplier equipment end items at point of manufacture. Such data shall have been witnessed by the Acquirer or the designated representative.		
9.12	For CSCI, in addition to previous requirements, the Supplier shall perform the following actions for each CSCI being audited: a. Review all documents which will comprise the Software Product Specification for accuracy and completeness; b. Review the design descriptions for proper entries, symbols, labels, tags, references and data descriptions; c. Compare top-level software design descriptions with lower-level software design descriptions for consistency; d. Compare all lower-level software design descriptions with all software listings for accuracy and completeness; and e. Review the annotated listings for compliance with approved coding standards		
9.13	The Supplier shall recommend acceptance of CI, which have demonstrated compliance with the product specification and shall certify by signature that the configuration item has been built in accordance with the drawings and specifications		
10.0	**General Audit Requirements**		
10.1	The Supplier shall perform the audit(s) as scheduled in the CMP. A CI shall not be audited without prior Acquirer approval of the Functional and Allocated (development) Baselines. A current set of listings shall be provided for each CSCI being audited. The Supplier shall submit a minimum of two weeks prior to the audit(s), the final draft of the Product Specification for audit of the CI, to the Acquirer for review.		
10.2	The Supplier shall be responsible for ensuring that subcontractors, vendors, and suppliers participate in audits, as appropriate. The contractor shall make possible the attendance of representatives from the Multinational Joint Projects		

10.3	The Supplier shall be responsible for providing facilities for conducting audits. Accordingly, the contractor shall be required to provide the necessary resources and material to perform the audits		
10.4	The Supplier shall prepare for each audit consistent with the scope and magnitude of the audit. The contractor shall be responsible for establishing the time, place and agenda for each audit in accordance with the master milestone schedule, subject to coordination with the Acquirer. This shall be accomplished sufficiently in advance of each audit to allow adequate preparation for the meeting by the contractor, any subcontractors, and the Acquirer or designated representative.		
10.5	The Supplier shall provide the following information on CI(s) to the Acquirer prior to audit(s): a. Supplier Team Composition. The test manager should be one of the Supplier personnel in attendance; b. Identification of CI to be audited: c. Nomenclature; d. Specification Identification Number; e. Configuration Item Numbers; f. Serial Numbers; g. Drawing and Part Numbers; h. NATO Commercial and Government Entity (NCAGE); i. Software inventory numbering system; and j. Current listing of all ECP, deviations and waivers against the CI, either requested of, or approved by the PM. k. Status of test programs to test CI with automatic test equipment (when applicable).		
10.6	The Supplier shall review the test procedures and results for compliance with specification requirements. Discrepancies shall be recorded in the audit minutes.		
11.0	**Post Audit Requirements**		
11.1	After completion of the audit(s), the Supplier shall publish and distribute copies of audit minutes. The Acquirer will officially acknowledge completion of the audit as indicated in REFERENCE		
11.2	The Supplier shall prepare and submit to the Acquirer for approval, audit report(s) complete with evidence of the closure of outstanding action items, in a format agreed to by the Acquirer.		
11.5	The Supplier shall record the accomplishment of the audit(s) in the Supplier's CSA system		

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Table of additional Configuration Management Requirements to select

HEAVY VISIBILITY NEEDS

#	***Build Up Clause***	***Change or Clarification***	***Applies***
0	ACMP-2100 Applies (to all contracts)		
1	**Configuration management responsibility**		
1.0	**Responsibilities and authorities**		
1.1	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **capability requirements** or definitions		
1.2	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the **functional** requirements or definitions, and any changes to them		
1.3	The Acquirer retains all responsibilities and authorities on configuration decisions that impact the form, fit and function of the product		
1.4	The Acquirer delegates responsibilities and authorities to the Supplier on configuration decisions that DO NOT impact the capabilities and functions to be realized		
1.5	The Acquirer reserves the right conduct surveillance of the Supplier's CM process		
1.6	Configuration Control Board (CCB) All proposed changes (e.g. ECP, RFD, RFW) shall be submitted and authorised by the Supplier's CCB prior to submission to the Acquirer. The Supplier's CCB shall be defined in the Supplier's Configuration Management Plan (CMP).		
2.0	**Dispositioning authority**		
2.1	The Acquirer reserves the right to disapprove the Supplier's CM Plan when it fails to meet requirements		
2.2	The Acquirer, when submission is required, will disposition the Supplier's Configuration Management Plan		
2.3	The Acquirer will disposition the selection of CI's		
2.4	The Acquirer is the final dispositioning authority on configuration/engineering changes		
2.5	The Acquirer is the final dispositioning authority on contractually required baselines		
2.6	The Acquirer is the final dispositioning authority on contractually required audits		
2.7	The Acquirer is the final dispositioning authority on parts substitution and variances		

2.8	The Acquirer is the final dispositioning authority on Interface Requirements which must be controlled by the Government		
2.9	Classification of ECP-The Supplier shall submit Class I ECP for approval and Class II changes for either concurrence in classification, or approval, to the Acquirer. The Supplier shall submit ECP to the Acquirer in accordance with the requirements of the contract (e.g. number of copies, data medium, etc.).		
3	**Configuration management process**		
3.0	**General**		
3.1	The Supplier shall identify the means by which continuity of effort and understanding is achieved between his sub-suppliers and himself, and between the Acquirer and himself and internally within his organization, for the allocated CI, integrating, interfacing or otherwise related CI, Supplier organizations, test and evaluation activities, and managers;		
4.0	**Configuration management planning**		
4.1	The CMP shall be delivered to the Acquirer for approval, no later than thirty (30) days, after contract award. Depending on contract duration, updating of the CMP may be necessary. Procedures and the schedule for such updating shall be provided by the Supplier or included in the CMP itself. The CMP, when approved, shall serve as a working document to plan, guide, and measure the CM process. CM shall be implemented in accordance with the approved CMP.		
4.2	The information described in the following paragraphs shall be included in the CMP: Organization. This section of the CMP shall outline the relationship and integration of the Supplier's project management and CM organizations and describe the organizational relationship of the individuals and activities involved in the CM program. The responsibilities of each individual or group shall be defined as well as the policy directives that govern the contractors CM program. Configuration Identification and Documentation. This section shall describe the methods to be used for identifying (e.g., naming, marking, numbering) documents and physical items (CI) Methods to achieve configuration traceability from requirements to equipment, components, computer software, facility sites and spares shall also be described. Requirements for the preparation, submission and subsequent release of Acquirer approved documentation which defines each of the required baselines shall also be described in this section. The Supplier's methods under which the documentation will be prepared and released internally shall also be described.		
4.3	The format of the CMP shall conform to the outline and format specified in REFERENCE. Optionally, sections listed may be further subdivided.		
5.0	**Configuration identification**		

5.1	The Supplier shall recommend a structured list of potential CI(s) to the Acquirer, using the selection criteria specified below. The final selection of CI shall be made by the Acquirer. Criteria for selection of CI shall include, but not be limited to: a. Safety of personnel and/or equipment; b. Criticality, complexity, and state-of-the-art, high cost items; c. Critical performance or operational effectiveness; d. Functionality and performance; e. Interface with other systems, government or sub-contractor furnished items, NATO standard items and support equipment; f. Integrated logistic support; g. Applications that effect a delivered product; h. Reliability and maintainability; i. Organization, management and responsibility considerations; j. Second sourcing; and k. Susceptibility to change.		
5.2	Supporting data to be submitted with each proposal of potential CI(s) shall include but not be limited to the following: a. Project name; b. CI/Joint CI affected; c. Documentation; d. Identification number and title; e. Reasons for proposal; f. Consequences of approval or disapproval; g. Interface with other systems; h. Alternatives; i. Originator's name and address; j. Change authority; and		
5.3	The Supplier's identification numbering system shall be used to assign a unique identifier to each CI and its associated documentation. Configuration Identification shall identify the documents that establish each baseline. The identification process will continue as long as the system is undergoing change.		
5.4	The Supplier shall serialise like items, or groups (lots) of like items. The Serial / Lot Numbers shall be unique, consecutive, and non-duplicating for all items with a specific nomenclature. The original Serial Number of a unit/item/CI shall not be changed even when a change affecting interchange ability may require rework and reidentification. Once assigned, Serial Numbers shall not be reused for the same item/CI.		
5.5	All CI shall be marked in accordance with REF. Marking requirements and methods of application shall be entered in the configuration documentation related to the CI. If the product is too small to be marked, the configuration documentation shall specify the alternative means of identification.		

5.6	The Supplier shall assign nomenclature in accordance with guidelines provided by the Acquirer REF.		
5.7	Non-Developmental Items identified as CI, when modified to satisfy project requirements, shall be re-identified as a project modified CI, and documented and controlled in accordance with the requirements of the contract.		
5.8	For each CI, the Supplier shall develop and maintain configuration identification documentation. The Supplier shall document the functional and physical characteristics of all selected CI. The Supplier shall recommend to the Acquirer, the types of Configuration Documentation that shall be used to establish each CI. a. The Supplier shall obtain a NATO Commercial and Government Entity (NCAGE) Code. b. The Supplier shall also obtain the NATO Stock Number (NSN) for items designated for NATO re-procurement.		
5.9	For each Computer Software Configuration Item (CSCI), the Supplier shall identify its Computer Software Components (CSC) and Computer Software Units (CSU).		
5.10	The Supplier shall establish the Functional Baseline (FBL) each CI.		
5.11	The functional configuration documentation for a system shall be in the form of a system specification(s) or a prime item development specification(s) for a single item plus other applicable documentation. The functional configuration documentation shall also identify the documentation for selected items that are to be integrated or interfaced with the CI such as items separately developed or currently in the inventory. Functional configuration documentation shall include but are not limited to: a. All necessary functional characteristics; b. Test requirements; c. The necessary interface characteristics with associated items; d. Key lower level CI, if any; and e. Design constraints.		
5.12	The Supplier shall establish the Allocated Baseline (ABL) for each CI		
5.13	The ABL shall meet the functional requirements allocated in the FBL. The development configuration documentation shall be in the form of development specification(s), referenced interface control documents, and other applicable documentation. Development configuration documentation shall include but are not limited to: a. The functional characteristics that are allocated based on the functional baseline; b. The tests required to demonstrate achievement of those functional characteristics; c. The necessary interface characteristics with associated CI; and d. Design constraints.		
5.14	The Supplier shall establish the Product Baseline (PBL) for each CI		

5.15	The product configuration documentation shall be in the form of product, material, and process specifications, engineering drawings and other technical documentation for the CI that satisfactorily reflects the requirements of ABL and FBL. Product configuration documentation shall include but not be limited to:a. All necessary physical and functional characteristics of CI;b. Selected functional characteristics designated for production acceptance testing;c. Production acceptance test; andd. PCA and FCA documentation.		
5.16	The Supplier shall identify each baseline by: (1) The baseline item CI number; (2) Baseline type; and (3) System designation.		
5.17	The Supplier shall provide, for each baseline, a list of documents, identified by title, and including the following: (1) Identification number and the NSCM NCAGE; (2) Revision status; (3) Type; (4) Use in other related systems; and (5) Approval date.		
5.18	The Supplier shall prepare the documentation required for each baseline in accordance with the standards and/or other requirements specified in the contract REFERENCE.		
5.19	The Supplier shall ensure that the configuration documentation defining the Configuration Baselines required in this contract, are mutually consistent and mutually compatible. NOTE: Each succeeding level of configuration documentation from the FBL to the ABL to the PBL shall be traceable to, and be a detailed extension of, its predecessor(s).		
5.20	The Supplier shall control and maintain the approved configuration documentation for each baseline.		
5.21	The Supplier shall submit the complete configuration documentation for each baseline.		
5.22	The Supplier shall establish a Start of Contract Baseline (SCB) that reflects the configuration information at the start of the contract, and make it available to the Acquirer 30 days after contract award. In addition, the Supplier shall establish an End of Contract Baseline (ECB) that reflects the configuration information at the end of the contract, and make it available to the Acquirer 30 days before contract conclusion.		

5.23	The Supplier shall propose for Acquirer approval, as a part of the configuration identification process, the Product Structure, the CI's, the required baselines, the interfaces, and the associated identification/numbering schemes.		

6.0	**Change control**		
6.1	**Engineering Change Proposals (ECP)** The Supplier shall prepare and process an ECP for engineering, design, development changes, and shall classify and submit to the PM. Review and disposition the approved engineering changes in the CI and in its configuration documentation, update status accounting records, distribute change documentation, and verify change implementation. a. NOTE: Similar steps apply to RFD and RFW while only some steps apply to preliminary ECP (see 6.4).		
6.2	An ECP shall be a Class I if: a. The Functional Baseline (FBL) or Allocated Baseline (ABL), once established, is affected to the extent that any of the requirements are not within specified limits or specified tolerances; b. The Product Baseline (PBL), once established, is affected or the change impacts one or more of the following: (1) Government Furnished Equipment (GFE); (2) Safety (to include safety critical software); (3) Security; (4) Deliverable computer software; (5) Compatibility or interoperability with interfacing items; (6) Delivered operational and maintenance manuals; (7) interchangeability or replaceability; or (8) skills, manning, training, biomedical factors or human engineering design; and c. any of the contractual factors are affected, such as costs, guarantees, warranties, deliveries or scheduled contractual milestones.		
6.3	Class II ECP address all changes not classified as Class I.		

6.4	The Supplier shall assign one of the following priorities to each Class I ECP. The Supplier's proposed priority will stand unless the Acquirer has a valid reason for changing the priority. a. Emergency Priority. An Emergency Priority shall be assigned to an Engineering Change Proposal (ECP) for either of the following reasons: (1) to effect a change in operational characteristics which, if not accomplished without delay, may seriously compromise security; or (2) to correct a hazardous condition which may result in fatal or serious injury to personnel or in extensive damage or destruction of equipment. b. Urgent Priority. An Urgent Priority shall be assigned to an ECP for any of the following reasons: (1) to effect a change which, if not accomplished expeditiously, may seriously compromise the mission effectiveness of deployed equipment or forces; or (2) to correct a potentially hazardous condition; the uncorrected existence of which could result in injury to personnel or damage to equipment; or (3) to meet significant contractual requirements (e.g., when lead time will necessitate slipping approved production, or deployment schedules if the change was not incorporated); or (4) to effect an interface change which, if delayed, would cause a schedule slippage or increase cost; or (5) to effect life cycle cost savings to the nations involved. c. Routine Priority. A Routine Priority shall be assigned to an ECP when emergency or urgent is not applicable.		
6.5	**Authorization of Class I ECP**. Prior to implementing the change, the Supplier shall seek Acquirer approval of Class I ECP		
6.6	**Authorization of Class II ECP**. the Supplier shall submit the Class II ECP to the Acquirer, for concurrence in the classification only, prior to or concurrent with, the release of the Class II change into contract production.		
6.7	**Authorization of Class II ECP**. Prior to implementing the change, the Supplier shall seek Acquirer approval of Class II ECP		
6.8	**Processing Times for Class I ECP**. Target Processing Times for ECP shall be agreed to between the Supplier and the Acquirer		
6.9	**FORMS**: The Supplier shall use Acquirer approved forms for ECP, RFD/RFW and NOR, shown in REF	REFERENCE	
6.10	**Numbering of ECP** The Supplier shall establish an ECP numbering system as shown in REF	REFERENCE	
6.11	**Basic Engineering Change** Whenever a change to a CI is required; the contractor shall develop the entire change and assign an ECP number to the ECP. This ECP shall encompass the highest level of assembly		

	impacted by the change.		
6.12	**Parts Substitutions** Substitution of a non-repairable part identified by the Acquirer as an authorized substitute or superseding part shall not require a Class I Engineering Change or a Request for Deviation or Waiver, unless otherwise specified in the contract. a. Substitution of a non-repairable part for an item for which the Supplier has configuration documentation custody shall not require a Class I or Class II engineering change or a request for deviation/waiver when: (1) The part is identified as an authorized substitute or superseding part in a military specification or standard; and (2) The part will not be installed in equipment to be submitted for verification and reliability demonstration tests. b. For an item for which the Supplier has configuration documentation custody, a Class II Engineering Change shall be required when the part substitute is determined to be a preferred part over the original. c. A Class II Engineering Change will be required for all items for which the contractor does not have configuration documentation custody. d. Parts substitutions which do not meet the requirements stated in REF and for which a permanent change is not desired, shall require submission of a Request for Deviation or Waiver. e. All parts substitutions shall be recorded in an Interchange ability and Substitute Items list reflecting the relationships between the parts.		
6.13	**Data For ECP, RFD, and RFW**, the Supplier shall submit data that is required to justify and describe the change and to determine its total impact. This data must be provided in a format agreed to in the contract or otherwise by the government.		
6.14	**Classified Data** Classified data, essential to the evaluation and disposition of an ECP, shall be submitted separately in accordance with the approved NATO security procedures REF	REFERENCE	
6.15	**Revisions of ECP** An ECP shall be revised when major alterations or changes to the initial ECP are necessary in order to describe the proposed change, and the Acquirer concurs with the additional engineering effort involved. Unless otherwise directed by the Acquirer, the revised ECP shall supersede the original ECP or latest revision and all existing amendments. The date of the ECP shall be the submission date of the revision.		
6.16	**Amendments to ECP** Amendments to an ECP shall explicitly state the change to the previous document		

6.17	**Related Engineering Changes** Whenever a basic Engineering Change to one CI requires related Engineering Changes to other CI, the Supplier shall describe the relationship between the basic ECP and any related ECP.		
6.18	**Use of Preliminary ECP**. The Supplier shall prepare and submit a Preliminary ECP, for the following purposes: a. to furnish the PM with available information in order to permit; (1) a preliminary evaluation of the merits of the proposed change; or (2) a determination regarding the desirability of continuing expenditures required to further develop the proposal. b. to provide alternative proposals; or c. when it is impracticable to submit a formal ECP within 30 calendar days.		
6.19	**Approved Preliminary ECP**. The Supplier shall prepare and submit a formal ECP for each preliminary ECP approved by the Acquirer.		
6.20	If the Supplier determines, prior to manufacture of an item, that it is impossible to satisfy the mandatory requirements of the specification or drawings, the Supplier shall have a procedure for preparing and submitting an RFD to the Acquirer.		
6.21	If the Supplier determines, either during or after manufacture of an item, that the item does not meet specified requirements, but nevertheless believes that the item is suitable for use "as is" or after rework by an approved method, the contractor shall have a procedure for preparing and submitting an RFW to the Acquirer.		
6.22	Concurrent with the preparation of an ECP, the Supplier shall prepare an NOR for each drawing, associated list, specifications and other non-specification type documents (comprising the configuration identification for an item) which would require revision if the ECP were approved. NOR shall be attached to their related ECP		
6.23	**Engineering Release System**. The Supplier shall establish and maintain an Engineering Release System and shall use the system to issue configuration documentation and to authorize the use of configuration documentation associated with an approved configuration. The Supplier shall maintain current and historical Engineering Release information for all configuration documentation of all configuration items and their component parts.		
6.24	**Engineering Release Record (ERR)**. The Supplier shall utilize an “Engineering Release Record” to release new or revised configuration documentation to the Acquirer for approval. The Acquirer approved configuration documentation will be used for all Supplier and Acquirer activities. The Supplier shall also ensure that information about the newly released and approved configuration documentation is incorporated into the Configuration Status Accounting Information system.		

6.25	**Maintenance of Associated Documentation**. The Supplier shall establish a library to store Test Data, Test Procedures and Test Plans and implement procedures for controlling the library.		
6.26	**Interface Requirements.** The interface requirements for a system and its configuration items shall be identified as part of the system engineering process. Those Interface Requirements, which must be controlled by the Acquirer during the development of a system, shall be incorporated into the Functional Baseline (FBL) and or Allocated Baseline (ABL) as applicable. Such interface requirements defined in baseline specifications shall be subject to the configuration control requirements of this REF.	REFERENCE	
6.27	Prior to the Product Baseline (PBL), the Supplier shall be responsible for defining and controlling all compatibility and interoperability among the various hardware and software components for which he has the design activity responsibility and between those components and the interfaces or components specified in the baseline configuration documentation.		
6.28	The Supplier shall provide a representative to the Interface Control Working Group (ICWG) who is responsible for all interface actions and agreements.		
6.29	The Supplier shall establish a Software Development Library (SDL) and implement procedures for controlling the software residing within the SDL.		
7.0	**Configuration status accounting**		
7.1	The Supplier shall be responsible to acquire, deliver and provide access to the configuration information necessary to support the life-cycle stages of the programme that are subject to the contract.		
7.2	The Supplier, at the commencement of the project, shall propose a CSA system for the project that satisfies the Acquirer and meets all contractual requirements. CSA information and reporting systems shall be suitable to address the needs of all PAP stages appropriate to the contract and as such be tailored if necessary. At the commencement of each project PAP stage, CSA shall be reviewed against the needs of that stage. CSA shall be ready to accept data and provide the required information not later than the milestones specified in the contract		

7.3	Data Elements. The Supplier shall utilize data elements to be able to: a. Identify the current, approved configuration documentation, and identifier associated with changes; b. Record and report the status of proposed engineering changes from initiation to release; c. Record and report the results of configuration audits, including the status of identified discrepancies and action items; d. Record ad report the status of deviations; e. Provide traceability of design and reconciliation of product configurations; f. Track configuration identifiers including serial or lot numbers; g. Record and report test data, test results and test procedures; and h. Prepare CSA records and reports, unless otherwise specified in the contract. If a need arises for data elements not included therein, the contractor shall identify the data element to the Acquirer along with a proposed definition.		
7.4	The Supplier shall identify a focal point for the CSA system to interface with the Acquirer concerning potential or actual problems or deficiencies detected as a result of reviewing the output.		
7.5	The Configuration Data Management System shall include the specified Data Information Packets (DIP) (REFERENCE)		
7.6	The Supplier shall allow the Acquirer or his designates to access the CSA system. The communication method, periodicity and means for access to be used shall be as Specified in the contract (REFERENCE).		
7.7	The CSA database shall also include the identification of all proprietary or restricted data and the CI to which each agreement applies		
7.8	The Supplier shall retain a complete CSA historical record. Such historical information shall be formatted and maintained in such a manner that it can be readily copied, in total or in specific elements as identified by the Acquirer (REFERENCE).		
7.9	In order to continue CSA during the in-service phase, the Supplier shall transfer the CSA database to the Acquirer or parties indicated by the Acquirer. The means and format of transfer of this data shall be as described in REFERENCE		
7.10	The Supplier shall provide, to the satisfaction of the Acquirer, explanations and training on the interpretation of each CSA data output.		
7.11	The Supplier's CSA system shall be capable of, but not be limited to, providing the following reports: a. An historical list of (sub-) contracts which will include information on the contact number, contractor's name and NSCM NCAGE and contract purpose; b. A list of configuration documents for a CI;		

	c. A list of serial numbers for a CI (if applicable); d. A list of all hardware parts, assemblies and sub-assemblies including the manufacturer's part number and the NATO Stock Number (if applicable) that comprise a CI. It shall be printed in a hierarchical, or indented, manner so that the "level of assembly" relationships (e.g. where used, next assembly) of the various pieces of the CI can be understood by looking at the arrangement of the list; e. A list of all ECP, deviations and waivers against a CI; f. An historical list of all changes including information on the change status and implementation status (e.g. progress); g. A list of all outstanding, programmed or planned audits; h. A list of all outstanding actions, corrective and otherwise, as a result of an audit against a CI; i. A list of CI which have been subject to an audit with the date of the audit, the result of the audit and the status of the audit; and j. A breakdown list of the top level CI and all lower level CI.		
7.12	Each report shall be marked such that it will identify the nature of the report and the time and date of the report. In general, the reports shall be sufficient for the Acquirer to establish, but not be limited to, the following: a. To control the status of the project in regard to the status of CI; b. To control the status of a CI and all the changes involved; and c. Reports shall be made available as specified (REFERENCE)		
8.0	**Configuration audit**		
8.1	**The Supplier shall be responsible for conducting the Functional Configuration Audits (FCA)**		
8.2	The Supplier shall conduct the FCA on the CI, which is representative of the configuration to be released for production. When a prototype or pre-production article is not produced, the contractor shall conduct the FCA on the first production article. FCA may be conducted on a progressive basis. For cases where CI qualification can only be determined through integrated system testing, FCA for such CI will not be considered complete until integrated testing is complete.		

8.3	The Supplier shall also conduct the FCA for a complex Configuration Item (CI) on a progressive basis throughout the CI development, when so specified by the PM. Such an FCA shall culminate at the completion of testing of the CI with a review of all discrepancies at the final system level FCA.		
8.4	The Supplier shall develop a checklist that identifies documentation, hardware and computer software to be available and tasks to be accomplished at the FCA for the CI.		
8.5	The Supplier shall review all updates to previously delivered documents to ensure accuracy and consistency throughout the documentation set.		
8.6	The Supplier shall document the physical configuration of the CI for which the test data are verified.		
8.7	The Supplier shall ensure that all test reports; procedures and data used for the FCA shall be made a matter of record of the FCA minutes		
8.8	The Supplier shall ensure that test data essential to manufacturing are included on, or furnished with, the CI documentation.		
8.9	The Supplier shall provide the following testing information for the FCA: a. Test plans, specifications, descriptions, procedures and reports for the CI; b. A complete list of accomplished functional tests (successful or not); c. A complete list of functional tests required by the specification but not yet performed; and d. Detailed test results.		
8.10	The Supplier shall ensure that the testing accomplished with the approved test procedures and the validated test data (witnessed) shall be sufficient to ensure CI performance and quality assurance provisions/qualification requirements are satisfied as set forth in the specification.		
8.11	For those performance parameters, which cannot be completely verified during testing, the Supplier shall ensure complete verification by analysis or simulations. The results of the Supplier analysis or simulations shall be sufficient to ensure CI performance as outlined in the specification.		
8.12	The Supplier shall perform retests or additional tests to assure compliance with testing information for the FCA.		
8.13	The Supplier shall review the interface requirements and the testing of these requirements for CI.		
8.14	The Supplier shall examine the Preliminary and Critical Design Review minutes to ensure that all findings have been incorporated and completed.		
8.15	For Computer Software Configuration Items (CSCI), in addition to the previous requirements, the Supplier shall review database characteristics, storage allocation data and timing, and sequencing characteristics for compliance with specified requirements.		

8.16	The Supplier shall analyze and provide a written report to the Acquirer on CI that fail to pass test provisions/qualification requirements as to the cause of failure to pass.		
9.1	**The Supplier shall be responsible for conducting the Physical Configuration Audits (PCA)**		
9.2	The Supplier shall conduct the PCA for a new production item on the first article of its kind of the production line. For those items that are a re-procurement of a CI already in the inventory, the Supplier shall conduct the PCA on an item identified and selected jointly by the Acquirer and the Supplier.		
9.3	The Supplier's conduct of the PCA shall include a detailed audit of; engineering drawings, specifications, technical data and tests utilized in production of hardware CI (HWCI) and a detailed audit of design documentation, listings, and manuals for CSCI. The PCA shall also include an audit of the released engineering documentation and quality control records to make sure the as-built or as-coded configuration is reflected by this documentation. For computer software, the Software Product Specification and Version Description Document shall be subject to the PCA.		
9.4	The Supplier shall not perform the PCA unless all data pertinent to the CI audit is available for the audit. The Supplier shall compile and make this information available to all PCA participants two weeks in advance of the scheduled audit date. Required information shall include: a. Configuration Item Product Specification; the current Acquirer approved issue of the hardware development specification, software requirements specification and the interface requirements specification(s) to include Acquirer approved specification change notices, deviations and waivers; b. A list delineating both approved and outstanding changes against the CI; Identification of all changes actually made during test; Identification of all required changes not yet completed; c. Complete Shortage list;d. Acceptance Test Procedures and associated Test Data;		
9.5	The Supplier shall review all records of baseline configuration for the CI by direct comparison with the appropriate engineering release system and change control procedures to establish that the configuration being produced does accurately reflect released engineering data. This includes interim releases of spares provisioned prior to PCA to ensure delivery of currently configured spares.		
9.6	The Supplier shall identify any difference between the physical configurations of the unit selected for the PCA and the unit used for the FCA and shall certify or demonstrate to the Acquirer that any difference does not degrade the functional characteristics of the selected units.		
9.7	The Supplier shall ensure that differences between the actual configuration of the CI being audited and the configuration described in the CI configuration documentation shall be a matter of record in the minutes of the PCA.		

9.8	The Supplier shall review a representative number of drawings and associated manufacturing instruction sheets for each item of hardware, identified by the Acquirer, and shall determine their accuracy and ensure that they include the authorized changes reflected in the engineering drawings and the hardware. Unless otherwise directed by the Acquirer, inspection of drawings and associated manufacturing instruction sheets may be accomplished on a valid sampling basis.		
9.9	The following minimum information shall be recorded for each drawing reviewed: a. Drawing number/title (include revision letter); b. Date of drawing approval; c. List of manufacturing instruction sheets (numbers with change letter/titles and date of approval) associated with this drawing; d. Discrepancies/comments; and e. The results of selecting a sample of part numbers reflected on the drawing, checking to ensure compatibility with the Parts Selection List, and examining the CI to ensure that the proper parts are actually installed.		
9.10	As a minimum, the Supplier shall accomplish the following inspections for each drawing and associated manufacturing instruction sheets:a. Drawing number identified on manufacturing instruction sheet shall match latest released drawing;b. List of materials on manufacturing instruction sheets shall match materials identified on the drawing;c. All special instructions called on the drawing shall be on the manufacturing instruction sheets;d. All dimensions, tolerances, finishes, etc, called out on the drawing shall be identified on the manufacturing instruction sheets;e. All special processes called out on the drawing shall be identified on the manufacturing instruction sheets;f. Nomenclature descriptions, part numbers and serial number markings called out on the drawing shall be identified on the manufacturing instruction sheets;g. All drawings and associated manufacturing instruction sheets shall be reviewed to ascertain that all approved changes have been incorporated into the configuration item;h. The release record shall be checked to ensure all drawings reviewed are identified;i. The number of any drawings containing more than five outstanding changes attached to the drawing shall be recorded; andj. The drawings of a major assembly of the hardware configuration item shall be checked for continuity from top drawing down to piece-part drawing		
9.11	The Supplier shall present data confirming the inspection and test of sub-Supplier equipment end items at point of manufacture. Such data shall have been witnessed by the Acquirer or the designated representative.		

9.12	For CSCI, in addition to previous requirements, the Supplier shall perform the following actions for each CSCI being audited: a. Review all documents which will comprise the Software Product Specification for accuracy and completeness; b. Review the design descriptions for proper entries, symbols, labels, tags, references and data descriptions; c. Compare top-level software design descriptions with lower-level software design descriptions for consistency; d. Compare all lower-level software design descriptions with all software listings for accuracy and completeness; and e. Review the annotated listings for compliance with approved coding standards		
9.13	The Supplier shall recommend acceptance of CI, which have demonstrated compliance with the product specification and shall certify by signature that the configuration item has been built in accordance with the drawings and specifications		
10.0	**General Audit Requirements**		
10.1	The Supplier shall perform the audit(s) as scheduled in the CMP. A CI shall not be audited without prior Acquirer approval of the Functional and Allocated (development) Baselines. A current set of listings shall be provided for each CSCI being audited. The Supplier shall submit a minimum of two weeks prior to the audit(s), the final draft of the Product Specification for audit of the CI, to the Acquirer for review.		
10.2	The Supplier shall be responsible for ensuring that subcontractors, vendors, and suppliers participate in audits, as appropriate. The contractor shall make possible the attendance of representatives from the Multinational Joint Projects		
10.3	The Supplier shall be responsible for providing facilities for conducting audits. Accordingly, the contractor shall be required to provide the necessary resources and material to perform the audits		
10.4	The Supplier shall prepare for each audit consistent with the scope and magnitude of the audit. The contractor shall be responsible for establishing the time, place and agenda for each audit in accordance with the master milestone schedule, subject to coordination with the Acquirer. This shall be accomplished sufficiently in advance of each audit to allow adequate preparation for the meeting by the contractor, any subcontractors, and the Acquirer or designated representative.		

10.5	The Supplier shall provide the following information on CI(s) to the Acquirer prior to audit(s): a. Supplier Team Composition. The test manager should be one of the Supplier personnel in attendance; b. Identification of CI to be audited: c. Nomenclature; d. Specification Identification Number; e. Configuration Item Numbers; f. Serial Numbers; g. Drawing and Part Numbers; h. NATO Commercial and Government Entity (NCAGE); i. Software inventory numbering system; and j. Current listing of all ECP, deviations and waivers against the CI, either requested of, or approved by the PM. k. Status of test programs to test CI with automatic test equipment (when applicable).		
10.6	The Supplier shall review the test procedures and results for compliance with specification requirements. Discrepancies shall be recorded in the audit minutes.		
11.0	**Post Audit Requirements**		
11.1	After completion of the audit(s), the Supplier shall publish and distribute copies of audit minutes. The Acquirer will officially acknowledge completion of the audit as indicated in REFERENCE		
11.2	The Supplier shall prepare and submit to the Acquirer for approval, audit report(s) complete with evidence of the closure of outstanding action items, in a format agreed to by the Acquirer.		
11.3	The Acquirer shall: (1) Provide the name, organization and security clearance of each participating individual to the contractor prior to each audit; (2) Review the minutes and ensure that the minutes reflect all significant Acquirer inputs; and (3) Provide formal acknowledgement to the Supplier of the accomplishment of each audit after receipt of the audit minutes. The Acquirer establishes the adequacy of the contractor's audit performance by notification of: (a) Approval – to indicate that the audit was satisfactorily completed; (b) Contingent Approval – to indicate that the audit is not considered accomplished because some action items still remain outstanding (costs incurred for the resolution of all outstanding action items are the Supplier's responsibility), or (c) Disapproval – to indicate that the audit was seriously inadequate.		
11.4	The Acquirer shall acknowledge partial completion of audits(s) for those configuration items whose final approval is contingent upon completion of integrated systems testing.		
11.5	The Supplier shall record the accomplishment of the audit(s) in the Supplier's CSA system		
12.0	**Internal CM Process Verification**		

12.1	The Supplier shall plan Configuration process audits to assure an efficiently tailored CM system is implemented and that the configuration baselines have been set at the appropriate time in the contract. The Supplier shall perform the configuration management process audits, in accordance with approved CMP, and the guidelines of ISO 19011:2002, Guidelines for quality and/or environmental management system auditing or using the principles of SAE/EIA-649B . The Supplier shall capture configuration process audit planning, results, and action closures as part of the CM activities and information and make this available to the Acquirer. The Acquirer reserves the right to conduct his own process audits of the Supplier, if the approved CMP is not matched by process execution results and presents added risk to the contract.		

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Table of Customized additional Configuration Management Requirements

#	*Build Up Clause*	*Change or Clarification*	*Applies*
0	ACMP-2100 Applies (to all contracts)		
1	**Configuration management responsibility**		
1.0	**Responsibilities and authorities**		
2.0	**Dispositioning authority**		
3	**Configuration management process**		
3.0	**General**		
4.0	**Configuration management planning**		
5.0	**Configuration identification**		
6.0	**Change control**		
7.0	**Configuration status accounting**		
8.0	**Configuration audit**		
10.0	**General Audit Requirements**		

11.0	**Post Audit Requirements**		
12.0	**Internal CM Process Verification**		