



COMDTINST 5230.66A
DEC 11 2009

COMMANDANT INSTRUCTION 5230.66A

Subj: COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS AND INFORMATION TECHNOLOGY (C4&IT) SYSTEM DEVELOPMENT LIFE CYCLE (SDLC) POLICY

- Ref: (a) Establishment of the CG-6 Directorate and Associated Duties, COMDTINST 5401.5 (series)
 (b) CG-6 Technical Authority, COMDTINST 5230.79 (series)
 (c) Information and Life Cycle Management Manual, COMDTINST M5212.12 (series)
 (d) Command, Control, Communications, Computers and Information Technology (C4&IT) Information Assurance (IA) Policy, COMDTINST 5230.67 (series)
 (e) Command, Control, Communications, Computers and Information Technology (C4&IT) Enterprise Architecture (EA) Policy, COMDTINST 5230.68 (series)
 (f) Command, Control, Communications, Computers and Information Technology (C4&IT) Configuration Management (CM) Policy, COMDTINST 5230.69 (series)
 (g) Command, Control, Communications, Computers and Information Technology (C4&IT) Infrastructure Management Policy, COMDTINST 5230.70 (series)
 (h) Command, Control, Communications, Computers and Information Technology (C4&IT) Investment Management Policy, COMDTINST 5230.71 (series)
 (i) Spectrum Management Policy and Procedures, COMDTINST M2400.1 (series)

1. PURPOSE. To better enable C4&IT capability in support of the Coast Guard’s missions and business functions, this directive re-issues the authority, roles, and responsibilities governing the Coast Guard’s System Development Life Cycle (SDLC) for Command, Control, Communications, Computers and Information Technology (C4&IT) systems as described in reference (a). Department of Homeland Security (DHS) Acquisition Directive (AD) 102-01 (series) issues consolidated DHS-wide acquisition management policy. DHS AD 102-01 applies to all acquisitions. Major System Acquisition Manual (MSAM), COMDTINST M5000.10 (series) provides DHS AD 102-01 implementation guidance for USCG major acquisitions. All C4&IT major acquisitions should follow MSAM. Non-Major Acquisition Process (NMAP), COMDTINST 5000.11 (series) provides DHS AD 102-01 implementation guidance for USCG non-major acquisitions, excluding C4&IT.

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COMDTINST 5230.66A

NMAP directs non-major C4&IT acquisitions to follow the SDLC. All USCG C4&IT acquisitions not following MSAM, should follow the SDLC. This policy describes SDLC authorities, roles, and responsibilities and provides high-level guidance for ensuring compliance with references (b) through (i). This policy establishes the authority and responsibility for Commandant (CG-6) to publish the SDLC Practice. The SDLC Practice provides more detailed guidance describing the actions necessary, including event sequences, to ensure compliance with enterprise C4&IT policy requirements described in references (b) through (i).

2. ACTION. All CG unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, and chiefs of headquarters staff elements shall comply with the provisions of this instruction. Internet release is authorized.
3. DIRECTIVES AFFECTED. Command, Control, Communications, Computers and Information Technology (C4&IT) System Development Life Cycle (SDLC) Policy, COMDTINST 5230.66 is canceled.
4. REQUIREMENTS. The following policy governs all C4&IT systems.
 - a. All requirements in references (b) through (i) shall be met through products developed or updated, and activities and events that are performed during the appropriate phase of the SDLC process.
 - (1) Reference (b) establishes Commandant (CG-6)'s Technical Authority for Command, Control, Computers, Communications, and Information Technology (C4&IT) for the design, development, deployment, security, protection, and maintenance of Coast Guard C4&IT systems and assets.
 - (2) Reference (c) prescribes policies and procedures for administering the Coast Guard Records, Forms and Reports Programs as they relate to the lifecycle management of both paper and electronic documents/data.
 - (3) Reference (d) establishes the authority, roles, and responsibilities governing the enterprise Information Assurance (IA) program. The IA program addresses information protection, detection, and reaction for Command, Control, Communications, Computers and Information Technology (C4&IT) systems, identifies system vulnerabilities, establishes disaster recovery procedures, and manages the IA security awareness and education program.
 - (4) Reference (e) establishes the authority, roles, and responsibilities governing the Coast Guard's Command, Control, Communications, Computers, and Information Technology (C4&IT) Enterprise Architecture (EA).
 - (5) Reference (f) establishes the authority, roles, and responsibilities governing the Coast Guard's Command, Control, Communications, Computers, and Information Technology (C4&IT) Configuration Management (CM).
 - (6) Reference (g) establishes the authority, roles, and responsibilities governing Coast Guard Command, Control, Communications, Computers and Information Technology (C4&IT) classified and unclassified infrastructure.
 - (7) Reference (h) establishes the authority, roles, and responsibilities governing the Coast Guard Command, Control, Communications, Computers and Information Technology (C4&IT) investment management process. The C4&IT investment management process ensures C4&IT products, systems or services directly support Coast Guard mission and

- business needs, establishes clear accountability for C4&IT resource management, and promotes enterprise-wide coordination in developing C4&IT assets.
- (8) Reference (i) establishes policy for Coast Guard Spectrum Management. It prescribes procedures for obtaining and using spectrum dependant equipment and frequencies, resolving cases of interference and radio misuse.
- b. All Coast Guard and contractor support personnel, or organizations involved in the planning, acquisition, production, deployment, support, operation, and disposition of C4&IT systems shall:
- (1) follow the SDLC Practice;
 - (2) ensure the roles listed in this directive are identified for each system;
 - (3) ensure the responsibilities listed in this directive are assigned to one of these roles for each system.
- c. Commandant (CG-6) established the “U. S. Coast Guard Enterprise Core System Development Life Cycle (SDLC) Tailoring Strategy” in memorandum 5224, dated 11 AUG 2009 to the DHS Chief Information Officer. This Strategy describes the USCG’s approach for ensuring SDLC compliance with DHS AD 102-01 and includes a template of reusable tailoring plan products. U. S. Coast Guard C4&IT projects will develop individual tailoring plans by re-using, extending, or abbreviating core tailoring products as necessary to address unique variations in project characteristics based on programmatic requirements, application domains, solution approaches, and trade-offs in cost, schedule and quality. The corollary SDLC Practice Guide accompanying this COMDTINST provides detailed tailoring plan guidance. Commandant (CG-6) shall ensure that an SDLC tailoring plan is developed for each SDLC project. The plan shall:
- (1) address all SDLC requirements including responsibilities, products to be produced, and events to be conducted;
 - (2) describe any additions, deletions, or deviations from standard SDLC requirements;
 - (3) address the type of system (new or replacement), funding strategy (new, base, recapitalization funds), development approach (COTS, existing infrastructure, in-house development), its size, cost, complexity, risk, interface, interdependency, and/or interconnectivity between C4&IT systems, organizational impact, and any other factors or special considerations necessary for the system’s SDLC.
- d. At the conclusion of each SDLC phase, Commandant (CG-6) shall review, or delegate responsibility for reviewing in writing, all C4&IT system SDLC milestones and products for approval to exit that phase and enter the next phase.
- e. In special cases involving system maturity or innovation considerations, Commandant (CG-6) may place a C4&IT project within an initial SDLC phase beyond Conceptual Planning.
- f. Commandant (CG-6) will review, or delegate responsibility for reviewing in writing, existing SDLC documentation to be used in the development and approval of an SDLC tailoring plan to establish the appropriate initial SDLC phase for the C4&IT system.
- g. Commandant (CG-6) maintains this SDLC policy and provides guidance and requirements across all C4&IT system development. Locally developed SLDC policy or practice shall align with and supplement Commandant (CG-6) SDLC policy.
- h. Specific guidance supporting SDLC alignment with mandates outside of Commandant (CG-6) (e.g., DHS and acquisition requirements) will be provided in the SDLC Practice.

- i. Individuals designated to an SDLC role for a C4&IT system shall carry out their responsibilities as outlined in both this policy and the SDLC Practice.
5. DISCUSSION. This SDLC Policy is complemented by the SDLC Practice. The SDLC Practice includes documents, web sites, and other information that provides detailed SDLC implementation procedures and processes.
 - a. As described in enclosure (1), the activities defined in the SDLC Practice are aligned for both Major and non-Major C4&IT acquisitions. SDLC products developed to meet either Major or non-Major C4&IT acquisitions will satisfy SDLC Phase exit criteria. Use of SDLC tailoring plans allows for satisfaction of requirements through shared products and alignment of corresponding activities.
 - b. The SDLC Practice provides the details of the products, processes, activities, decision events, inputs, outputs, and tools for each phase of the SDLC. The SDLC Practice requires a smaller scope of review and is written to be updated on a regular basis. Revisions to the SDLC Practice are reviewed and approved by the SDLC Policy and Practice Review Board (PPRB), chartered by the CIO, with a membership of CG-6 Office Chiefs. The SDLC Practice is “de-coupled” from the SDLC policy so it can be reviewed, revised, and updated in a timely, effective manner through the PPRB. An agile practice review and update procedure enables:
 - (1) taking advantage of improved processes and procedures;
 - (2) leveraging best practices;
 - (3) applying up-to-date technology; and;
 - (4) flexible incorporation of changes.
 - c. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to nor does it impose legally-binding requirements on any party. It represents the Coast Guard’s current thinking on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory requirements. An alternative approach may be used for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. To discuss an alternative approach (you are not required to do so), you may contact Commandant (CG-6) who is responsible for implementing this guidance.
6. SDLC ROLES AND RESPONSIBILITIES. Reference (a) describes the Commandant (CG-6) Roles and Responsibilities Framework. This section describes the relationship of those roles and responsibilities, and others, as they relate to the SDLC:
 - a. Commandant (CG-6), as the organization’s Chief Information Officer (CIO), and the C4&IT Technical Authority described in reference (b), is responsible for the roles and responsibilities defined herein:
 - (1) formally delegating SDLC roles and responsibilities in writing to ensure organizational alignment and accountability for each C4&IT system;
 - (2) implementing the SDLC Policy and Practice for C4&IT systems;
 - (3) maintaining and approving the policy, practice, forum, and procedures to govern and enforce the SDLC;
 - (4) working proactively with all entities involved in the system life cycle;
 - (5) establishing and directing the activities of the SDLC Policy and Practice Review Board;

- (6) promulgating and maintaining the SDLC Practice to provide guidance and best practices on how to meet SDLC Policy requirements;
 - (7) remaining abreast of external mandates for system development and acquisition and ensuring SDLC policies and practices align with and support compliance with those mandates;
 - (8) maintaining the CG's Enterprise System Inventory with role designations recorded;
 - (9) reviewing each system exiting each phase of the SDLC for approval to exit that phase and enter the next phase;
 - (10) proactively communicating, educating, and training the C4&IT community to execute policies and practices interfaced with the SDLC to successfully develop, deploy, and support C4&IT systems;
 - (11) providing subject matter expertise in C4&IT management disciplines, including Enterprise Architecture, Investment Management, Configuration Management, Infrastructure Management, Information Assurance, Requirements Management, the Privacy Act, and Records Management.
- b. The SDLC Coordinator (SDLCC) is the identified organizational element responsible for the effective and efficient coordination of all SDLC process activities and events for all SDLC projects. The SDLC Coordinator shall collaborate with other SDLC roles to ensure alignment and compliance with SDLC policies and practices. This will support the timely delivery, sustainment, and availability of C4&IT products and services that improve mission performance at the lowest total ownership cost. The SDLC Coordinator has the following responsibilities:
- (1) fields requests for and provides answers to SDLC status reports of all C4&IT projects in the System Inventory;
 - (2) ensures "acknowledgement of receipt" for a new C4&IT capability request, or an existing C4&IT capability enhancement request, is communicated from Commandant (CG-6) to the requestor to enter the SDLC process;
 - (3) ensures SDLC requests contain sufficient information for SDLC initiation;
 - (4) coordinates the identification and assignment of an Asset Manager for SDLC C4&IT projects;
 - (5) coordinates the recording and update of all SDLC activities, events, and milestones, ensuring each system profile is current, complete, and accurate, so that a current and accurate status of all C4&IT projects may be provided at any time;
 - (6) collaborates in activities to improve the effectiveness and efficiency of SDLC-related policies and practices;
 - (7) facilitates the designation of all SDLC roles for every SDLC C4&IT asset in a "designation letter" to ensure organizational alignment and accountability for each SDLC activity, event, and responsibility;
 - (8) monitors the progression of projects thru the SDLC process, and is the single point of contact for SDLC process issues;
 - (9) identifies SDLC projects lagging behind any anticipated events or milestones; identifies such a condition, and investigates for a root cause, facilitating completion of the event or milestone;

- (10) contributes to communicating, educating, and training the entire Coast Guard community to properly execute the SDLC policy and practice to facilitate the successful development, deployment, and support of C4&IT systems;
 - (11) facilitates the communication of policy and practice improvements to the SDLC Policy and Practice Review Board (PPRB) for disposition;
 - (12) provides a central SDLC process coordination service to ensure the SDLC phase approval process is followed and activities and events are documented;
 - (13) facilitates identification and resolution of SDLC process issues;
 - (14) facilitates the satisfaction of SDLC training requirements;
 - (15) monitors SDLC activities and events and reports findings to Commandant (CG-6) management.
- c. The Asset Manager (AM), as designated by Commandant (CG-6) shall guide, oversee, and monitor execution of the SDLC for all assigned C4&IT assets. The Asset Manager shall collaborate with Commandant (CG-6), Program Manager offices, and other SDLC roles to ensure alignment and compliance with the SDLC policy and practice. The Asset Manager role includes the following responsibilities:
- (1) guides, oversees, and monitors progress of assigned C4&IT assets throughout the SDLC;
 - (2) acknowledges receipt to the requestor, of a request for a new C4&IT capability, or an existing C4&IT capability enhancement;
 - (3) manages the progression of assigned C4&IT projects throughout the SDLC and coordinates with Commandant (CG-6), Program Manager offices, and other SDLC roles to ensure that the project delivers the requested C4&IT capability;
 - (4) ensures a C4&IT asset profile is established for each assigned C4&IT asset;
 - (5) updates the profile for each assigned C4&IT asset for currency, completeness, and accuracy;
 - (6) advises other SDLC roles on the scope and complexity of SDLC products for each C4&IT asset;
 - (7) facilitates resolution of C4&IT asset development, operation, or support issues between all SDLC roles to ensure delivery of a successful, supportable, easy-to-use C4&IT capability;
 - (8) coordinates all SDLC activities and events among all SDLC roles to ensure all SDLC requirements are addressed for each C4&IT asset;
 - (9) collaborates with other SDLC roles to complete an SDLC tailoring plan for each assigned C4&IT asset;
 - (10) ensures that performance and life cycle management measures are developed, tracked, and evaluated for each assigned C4&IT asset;
 - (11) works with CG-6 and Sponsor's Subject Matter Experts (SME)s to validate alignment of business improvement concepts with the target Enterprise Architecture and infrastructure;
 - (12) contributes to the timely delivery of SDLC services;
 - (13) participates in the development, review, evaluation, and improvement of the SDLC policy and practice;

- (14) ensures that C4&IT asset funding and resource estimates, and plans are realistic and adequate, have considered all phases of the SDLC, and will deliver and sustain the required C4&IT capability;
 - (15) ensures that the C4&IT asset, upon deployment, is fully supported, documented, and complies with all appropriate policies and practices;
 - (16) stays familiar with mission and business systems' practices and concepts of operation;
 - (17) facilitates the development of an SDLC tailoring plan for each C4&IT project by the Sponsor's Representative, System Development Agent, (SDA), and System Support Agent (SSA) to ensure compliance with Commandant (CG-6) policies and practices;
 - (18) identifies C4&IT system disposition needs, and facilitates disposal of the C4&IT system;
 - (19) stays familiar with the mission and business C4&IT systems' practices and concepts of operation;
 - (20) Coordinates phase approval documentation with Subject Matter Experts (SME)s prior to phase approval event; obtains phase approval from Commandant (CG-6) or designated authority, and submits phase approval documents to the SDLC Coordinator.
- d. The Sponsor is the identified organizational element that develops and documents the business case, defines and validates functional requirements, and accepts capability needed to support Coast Guard mission or business performance. For enterprise systems (as identified by the C4&IT Enterprise Architecture), the Sponsor shall be at an organizational element level. The Sponsor shall collaborate with other SDLC roles to ensure alignment and compliance with SDLC policies and practices. The Sponsor has the following responsibilities:
- (1) coordinating with Commandant (CG-6) for identification and designation of an Asset Manager for every C4&IT system;
 - (2) defining, maintaining, evaluating, and articulating organizational and program goals and requirements;
 - (3) acquiring, through planning and programming, the necessary resources to fully implement and support the needed C4&IT capability, considering total operating costs and the entire life cycle of the system. This is accomplished by collaborating through the Sponsor's Representative with the Asset Manager;
 - (4) coordinating, assimilating, and providing end user input to the appropriate phase of the SDLC;
 - (5) identifying and facilitating the resolution of issues tied to requirements and needs;
 - (6) defining, tracking, and evaluating performance measures;
 - (7) developing, updating, and establishing program doctrine, policies, and associated concepts of operations, including operational or end user operational training requirements;
 - (8) fulfilling the planning, programming, and budgeting functions of the Sponsor's organization;
 - (9) developing acceptance criteria (including performance) for C4&IT systems.
- e. The Sponsor's Representative (SR) is designated by the Sponsor. The Sponsor's Representative shall collaborate with other SDLC roles as well as customers, users, and stakeholders, to ensure alignment and compliance with the SDLC Policy and Practice to deliver successful, supportable,

and easy-to-use C4&IT systems. Responsibilities include:

- (1) coordinating concept approval for development of any new or existing system with Commandant (CG-6) and the Sponsor;
 - (2) articulating requirements for the Sponsor, users, customers, and stakeholders;
 - (3) assisting in the development of, and/or validation of business process changes;
 - (4) working with the Asset Manager to ensure that any new or existing system aligns with the Enterprise Architecture;
 - (5) developing cost estimates in collaboration with the Asset Manager, SDA, and SSA;
 - (6) communicating and resolving issues identified with system development, operation, or support with the Asset Manager, SDA, SSA, and Sponsor;
 - (7) processing and relaying change requests, input, and feedback from users, customers, and stakeholders.
 - (8) collaborating in the development of a tailoring plan for each project with the Asset Manager, SDA, and SSA in compliance with Commandant (CG-6) policies and practices.
- f. The System Development Agent (SDA) is the identified individual, unit, firm, agency, or organization that performs, or has the responsibility for design, development, and implementation of C4&IT systems, as well as the acquisition of C4&IT products or services. The SDA shall collaborate with other SDLC roles as well as customers, users, and stakeholders, to ensure alignment and compliance with the SDLC Policy and Practice to deliver successful, supportable, and easy-to-use C4&IT systems. Responsibilities include:
- (1) planning, acquiring, designing, developing, and deploying C4&IT systems and services when designated by Commandant (CG-6);
 - (2) coordinating and communicating with the Asset Manager, the Sponsor's Representative, and the SSA during all appropriate stages within the SDLC to ensure that all requirements and issues are properly addressed;
 - (3) evaluating the effectiveness of C4&IT policies and practices, and working with Commandant (CG-6) to improve SDLC policies and practices;
 - (4) together with the SSA, ensures that C4&IT systems are built to improve mission performance and sustain availability with the lowest total ownership cost, taking into account the costs of support and sustainability requirements associated with enterprise systems;
 - (5) defining, tracking, and reporting system development measures throughout the life cycle.
 - (6) collaborating in the development of a tailoring plan for each project with the Asset Manager, Sponsor's Representative, and SSA in compliance with Commandant (CG-6) policies and practices.
- g. The System Support Agent (SSA) is the identified individual, unit, firm, agency, or organization that performs, or has the responsibility for maintenance, support, and availability of a system. The SSA shall collaborate with other SDLC roles as well as customers, users, and stakeholders, to ensure alignment and compliance with the SDLC Policy and Practice to deliver successful, supportable, and easy-to-use C4&IT systems. Responsibilities include:
- (1) maintaining and supporting C4&IT systems and services as they are used in the field and within Coast Guard programs;

- (2) coordinating and communicating with the Asset Manager, the Sponsor's Representative, and the SDA, during all appropriate stages within the SDLC, to ensure that all support requirements and issues are properly addressed;
- (3) evaluating the effectiveness of C4&IT support policies and practices, and working with Commandant (CG-6) to improve SDLC policies and practices;
- (4) together with the SDA, ensuring that C4&IT systems are built to improve mission performance and sustain availability with the lowest total ownership cost, taking into account the supportability requirements and costs associated with sustaining enterprise systems;
- (5) defining, tracking, and reporting support measures throughout the life cycle.
- (6) collaborating in the development of a tailoring plan for each project with the Asset Manager, Sponsor's Representative, and SDA in compliance with Commandant (CG-6) policies and practices.

h. The responsibilities of User, Customer, and Stakeholder are defined in reference (a).

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS. Environmental considerations under the National Environmental Policy Act of 1969 (NEPA) were examined in the development of this Directive. This action is a preparation of guidance document that implements, without substantive change, the applicable Commandant Instruction and clearly does not have any environmental impacts. It is categorically excluded from further NEPA analysis and documentation requirements under current USCG Categorical Exclusion # (33), in accordance with COMDTINST M16475.1D, Figure 2-1. An Environmental Checklist or Categorical Exclusion Determination is not required.
8. FORMS/REPORTS. None.

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Control, Communications, Computers,
and Information Technology