OPNAV INSTRUCTION 5401.9A

From: Chief of Naval Operations

Subj: NAVY CONCEPT GENERATION AND CONCEPT DEVELOPMENT PROGRAM

Ref: (a) CJCSI 3010.02D

1. Purpose. To establish the objectives, roles and responsibilities, and processes for the Navy Concept Generation and Concept Development (CGCD) Program.

2. Cancellation. OPNAVINST 5401.9.

3. Applicability. This instruction applies to Navy organizations that generate, develop, and support concepts. While this directive delineates a systematic process for CGCD, it is not intended to preclude other concept development efforts.

4. Background. The CGCD Program provides a collaborative approach and structure for development, approval, and implementation of new strategic and operational concepts. Concepts should address current and future challenges, enable the rapid application of emerging technologies, position the Navy to seize opportunities, and serve to shape the Navy across the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) spectrum.

5. Objectives

   a. Create a culture of innovation and an environment in which new, high-impact concepts are rapidly generated, evaluated, and implemented.

      (1) New concepts can come from anywhere, but must be proactively harvested, evaluated, developed, and implemented to ensure future warfighting advantages.

      (2) Concepts address near to far term challenges and are applicable across the DOTMLPF spectrum.
(3) Concepts will focus on the strategic and operational levels and seek to inform or shape subsequent tactics development.

(4) Concepts will support, leverage, and influence joint and coalition concept development.

(5) Concepts may be driven by emerging technologies or may in turn drive the development of technological solutions.

(6) The reality of fiscal constraints necessitates the production of new concepts. The program will investigate innovative and disruptive capabilities that can be rapidly tested and delivered to the fleet.

(7) New concepts will define potential future capabilities to address warfighting challenges and opportunities, and provide the basis for sound investment decisions.

b. Establish a process that aligns responsibilities for CGCD.

(1) Define the roles and responsibilities for Navy stakeholders involved in generating, developing, approving, and implementing concepts.

(2) Align Navy CGCD with joint concept development processes as described in reference (a).

(3) Describe the tracking, dissemination, and implementation of concepts once developed.

6. CGCD Program Concepts

a. Definition. Within the context of the CGCD Program a concept is defined as: an expression of how something might be done; a visualization of future operations that describes how warfighters, using military art and science, might employ capabilities to meet future challenges and exploit future opportunities.

(1) Concepts should focus on maximizing warfighting capabilities by improving current capabilities or creating new
ones. A concept may also modify adversary behavior. Concepts should address a problem or opportunity to inform and shape tactics development and ultimately provide strategic or operational advantages. Concepts should describe new ways of using existing technologies, propose ways of using technologies likely to exist in the future, and/or enable the fielding and application of emerging technologies. However, concepts are not limited to technology, but should also address non-materiel options that create advantages.

(2) Concepts must have a purpose, timeframe, and definition of the military problem or opportunity and propose solutions to that problem. Solutions should include notions of how operations may be conducted, describe the potential end states for solving the problem, and describe the capabilities needed to implement the concept.

(3) A concept includes a description of risks associated with implementing the concept and proposes methods for mitigating these risks.

(4) A concept describes actions across the near, mid, and far-term that are necessary to achieve the described capabilities.

b. Program Focus. Priority will be given to those concepts offering the greatest and most rapidly achievable advantages in warfighting. Candidates for the CGCD Program will be assessed on the following criteria:

(1) Does the idea translate into advantages at the strategic or operational level?

(2) Does it solve a high priority military problem or exploit an opportunity?

(3) Does it address and integrate multiple capabilities and solutions, providing a holistic approach to a warfighting problem?

(4) Does it apply across a range of scenarios vice only to a specific situation?
(5) Do changes proposed by the concept reduce relative cost and increase benefits?

(6) Is it reasonably feasible and likely to gain support and acceptance?

(7) Will it result in a significant change in the way the Navy operates - not just incremental improvements?

(8) Does it define the application of a newly-developed technology or technical capability that has military utility but is not incorporated into existing concepts?

7. CGCD Program Overview. The process begins with the spawning and harvesting of conceptual ideas and ends when capabilities in the concept are delivered to the fleet. There are four major phases: innovate, generate, develop, and implement.

a. Innovate. To ensure warfighting challenges and opportunities are addressed effectively, the Navy must engender and harness a spirit of creativity. This involves a proactive approach to harvesting ideas for potential concepts. It begins with defining military problems and looking broadly for emerging opportunities that can contribute to address them. Within this construct the Chief of Naval Operations (CNO) Advisory Board (CAB), consisting of senior active duty and retired flag officers, strategic scholars, and industry executives, will play a key role in identifying and prioritizing major challenges and opportunities and provide guidance for addressing those challenges that require innovative concepts. Within the innovation phase of activities, the CNO Rapid Innovation Cell (CRIC) will play an important role in spawning and harvesting new ideas. The CRIC will serve as a focal point to develop new approaches to warfare. Working with the Office of Naval Research (ONR), the CRIC will help identify maturing technologies and non-materiel options and facilitate rapid prototyping, testing, and fielding.

(1) Navy Warfare Development Command’s (NAWWARDEVCOM) Navy Center for Innovation will serve as the entry point for concept nominations. Guidance and format for submitting a concept can be found at https://www.nwdc.navy.mil/NCFI. Proposals will be reviewed by subject matter experts (SME) to determine if they are candidates for the Navy CGCD Program. If
not, they may be returned to originator for additional modifications, incorporated into other products, or forwarded to another organization (such as ONR, labs, systems commands (SYSCOM), type commanders (TYCOM)) for consideration.

(2) Concept proposals may address any topic but there is special interest in addressing urgent operational needs statements, integrated priority lists, integrated priority capability lists, challenges identified by the warfare improvement programs, wholeness reviews, and post deployment briefs.

b. Generate. The generation phase begins with the writing of concept white papers (a short summary of the proposed concept). Commander, NAVWARDEVCOM will send white papers to Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM) and Commander, U.S. Pacific Fleet (COMPACFLT) for approval or disapproval to begin generation of the concept. NAVWARDEVCOM will lead teams to generate most concepts in collaboration with Office of the Chief of Naval Operations (OPNAV), COMUSFLTFORCOM, and COMPACFLT. Technology concepts will be developed in coordination with ONR. Some concepts may be assigned to other commands where subject matter expertise is more robust. Upon completion, NAVWARDEVCOM will forward the concept and action plan to COMUSFLTFORCOM and COMPACFLT for endorsement; then NAVWARDEVCOM will forward to CNO for approval. If the concept and action plan is small in scale and executable at a level below OPNAV, COMUSFLTFORCOM and COMPACFLT may approve and assign action plan items to subordinate commands.

c. Develop. Once the CNO approves the concept, the Director, Navy Staff (DNS) will assign tasks in the action plan to appropriate resource sponsors and offices of primary responsibility (OPR) for further development. Deputy Chief of Naval Operations for Integration of Capabilities and Readiness (CNO N8) will be the primary sponsor for emerging capabilities identified for development in the action plan while those capabilities are in a “non-acquisition” stage of development (BA 6.4-6.5). As directed in the action plan, resource sponsors and OPRs will lead development of emerging capabilities and inform DNS when a validated solution is ready for entry into the Planning, Programming, Budgeting, and Execution (PPBE) process. Emerging capabilities identified by the CRIC (in coordination with ONR) that are approved for rapid prototype development,
will be reported to CNO N8 for developmental funding and potential transition to acquisition. ONR and the CRIC will guide the development of capabilities for which they are the OPR until the capability becomes an acquisition project. Throughout the development phase DNS will provide periodic reports on emerging capabilities to CNO.

d. **Implement.** During this phase of the CGCD process, validated emerging capabilities transition from non-acquisition development to full acquisition products and are prepared for delivery to the fleet. Prior to transitioning into an acquisition project, CNO N8 will serve as the resource sponsor and provide DNS with periodic status reports. After becoming an acquisition project, the capability will be managed by an assigned resource sponsor in the same manner as other acquisition projects. When applicable, materiel solutions will proceed through the Joint Capabilities Integration and Development System (JCIDS) process. Non-materiel solutions will be implemented where appropriate across the DOTMLPF spectrum.

8. **Roles and Responsibilities.** Authorities for assigning tasks to supporting organizations and responsibilities of staffs are as follows:

a. **CNO**

   (1) Approve concepts and action plans generated within the CGCD Program.

   (2) Provide guidance to the CAB and CRIC.

b. **CAB**

   (1) Identify and set priorities of current and future challenges or opportunities. Provide guidance and priority regarding which concepts should be generated.

   (2) Assess future trends, conditions, variables, circumstances, and influences that will affect naval operations; reflect this assessment in guidance to the CGCD process.

   (3) Identify, propose, and evaluate alternative ways to employ naval forces to achieve strategic objectives.
(4) Serve as an advocate for new concepts as they are developed and implemented.

c. DNS

(1) Assign the tasks from the concept's action plan to the applicable resource sponsors and OPRs.

(2) Provide periodic action plan status updates to CNO during the development and implementation phases.

d. Deputy Chief of Naval Operations (Operations, Plans, and Strategy) (CNO (N3/N5))

(1) Review concepts and action plans to ensure they are consistent with existing and evolving Navy strategies and policies. Consider the effects concepts and resulting capabilities offer to enable future Navy strategies.

(2) Track concepts as they progress through OPNAV staffing.

e. CNO N8

(1) Resource sponsor for CGCD emerging capabilities during the “non-acquisition” stage.

(2) Provide funding for emerging capabilities “non-acquisition” projects developed by the CRIC and NAVWARDEVCOM in coordination with ONR.

(3) OPNAV Director, Innovation, Technology Requirements, and Test and Evaluation/ONR (N84) will serve as the primary OPR for emerging technologies identified for development in the action plan while capabilities are in a “non-acquisition” stage of development (BA 6.4-6.5). As an OPR, OPNAV N84 shall track and periodically report to DNS the status of emerging capabilities identified for development in concept action plans.

f. Other OPNAV Directorates

(1) Support the generation and development of CGCD program concepts.
(2) Assist concept generation teams with refining the potential solutions, validating the concept’s feasibility, and then recommending the best solution set for NAVWARDEVCOM to validate through testing, experimentation, and/or analysis activities.

(3) Assist concept generation teams with transition of CNO-approved concepts and their solutions to appropriate organizations for funding and implementation.

(4) Implement and track the actions approved by the CNO to include entry into the JCIDS, PPBE, and acquisition processes, as appropriate.

g. COMUSFLTFORCOM and COMPACFLT

(1) In coordination, review concept nomination white papers. Endorse white papers that merit full concept paper and action plan generation.

(2) Determine whether a concept should go to CNO for approval or should be approved by COMUSFLTFORCOM and COMPACFLT.

(3) Endorse concepts and action plans for delivery to CNO via Commander, NAVWARDEVCOM.

(4) Approve concepts and action plans that can be developed without significant OPNAV support.

h. Chief of Naval Research

(1) Act as the lead evaluator in the Navy CGCD process for concepts based on emerging technologies or technical capabilities.

(2) With the CRIC, identify and prioritize concepts required to support rapid fielding of emerging technologies or technical capabilities.

(3) Partner with the CRIC for the generation of technology-driven concepts, action plans, and associated products.
(4) Provide scientific and technological leadership and experience to assist in concept development. Research and evaluate the feasibility of proposed technological solutions.

(5) Serve as a conduit to various government scientific and technological agencies, the scientific community, and industry.

i. **Commander, NAVWARDEVCOM**

(1) Manage and execute the Navy’s CGCD Program as directed by CNO.

(2) Serve as the executive secretary and member of the CAB. Provide CAB support staff.

(3) Collaborate with commands and organizations that contribute concept ideas to the CGCD Program and implement new concepts. This includes the fleet, OPNAV staff, Naval War College, Naval Postgraduate School, CNO Strategic Studies Group, ONR, university affiliated research centers, Defense Advanced Research Projects Agency, SYSCOMs, centers of excellence, other Services, and joint and coalition concept development organizations.

(4) Lead the generation of capstone concepts that align resource sponsors and fleet TYCOMs.

(5) Serve as the Navy’s Center for Innovation. Facilitate the institutionalization of an environment and culture conducive to creativity that will solve challenges and/or seize opportunities presented by changes in the operating environment or new technologies. Drive the creation and sustainment of innovation across the Navy by advocating for innovation training in Navy schoolhouses and promoting Navywide innovation venues and collaboration tools.

(6) Establish and lead the CRIC to generate concept ideas for inclusion in the CGCD Program. Champion potential solutions to warfighter problems and opportunities. In coordination with OPNAV (N84), OPNAV Director, Assessment (N81), and OPNAV Director, Joint Capabilities and Integration (N83), select CRIC projects for follow-on prototyping and testing.
Leverage existing processes or facilitate alternative methods for rapidly developing and fielding innovative warfighting capabilities (12 to 24 months).

(7) Engage fleets and other stakeholders to collect and process innovative concepts that are candidates for the CGCD Program and assist concept submitters with the development of white papers.

(8) Prepare concept nomination packages for 4-star (COMUSFLTFORCOM and COMPACFLT) review and approval; recommend the command that should have the lead for generating the full concept paper and action plan.

(9) Generate operating concepts that are within NAVWARDEVCOM’s capability and capacity. For all concepts, NAVWARDEVCOM will ensure action plans and implementation tasks address all DOTMLPF actions needed to implement the concept.

(10) Deliver full concept papers and action plans for submission to COMUSFLTFORCOM and COMPACFLT for endorsement and then forward to CNO for approval. Concepts executable at the fleet level will be developed and implemented by COMUSFLTFORCOM and COMPACFLT.

(11) Track the actions needed to implement the recommendations listed in the concept action plans.

(12) Plan and execute workshops, studies, or wargames during the concept generation phase. Use NAVWARDEVCOM modeling and simulation, experimentation, and analysis capabilities to support the CGCD process.

(13) Establish, publish, and update as necessary a Navy CGCD guide to provide a standardized format and procedures for concept white paper, concept paper, and action plan submissions and for CGCD process information.

j. Other Commands and Organizations. These entities include, but are not limited to, the naval component commanders, numbered fleet commanders, Office of Naval Intelligence, Warfare Centers of Excellence, Naval War College, Naval Postgraduate School, and other activities, as appropriate.
(1) Contribute to the CGCD program process as enabled by their position within the Department of the Navy.

(2) Provide SMEs to support CGCD, review draft concept documents, and assess concept impacts on fleet or other capability requirements.

(3) Nominate concepts for inclusion in the CGCD Program.

(4) Support the assessment and validation of proposed concepts through workshops, wargames, analytical studies, fleet experimentation, and other events.

9. **Action.** Organizations listed in paragraph 8 are to support this program by executing the process outlined above.

10. **Records Management.** Records created as a result of this instruction, regardless of media and format, shall be managed per Secretary of the Navy (SECNAV) Manual 5210.1 of January 2012.

11. **Review.** This instruction shall be reviewed annually and revised as necessary.

12. **Reports Control.** The reporting requirements contained in paragraphs 7c and 7d are exempt from reports control per SECNAV Manual 5214.1 of December 2005, part IV, paragraph 7l.

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