



DEPARTMENT OF THE NAVY  
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2000 NAVY PENTAGON  
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OPNAVINST 5401.9  
N00X  
24 Feb 2010

OPNAV INSTRUCTION 5401.9

From: Chief of Naval Operations

Subj: NAVY CONCEPT GENERATION AND CONCEPT DEVELOPMENT PROGRAM

Ref: (a) CNO Memo Ser N00/100046 of 27 Jun 08 (NOTAL)  
(b) DART Working Paper #02-4  
(c) CJCSI 3010.02B  
(d) OPNAVINST 1000.16K

Encl: (1) Navy Concept Generation Flow  
(2) Navy Concept Development Flow  
(3) Organizational Structure Chart

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

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

3. Background. The Navy CGCD Program is established to provide a collaborative approach and structure for developing new strategic and operational concepts. Concepts should address current and future challenges, position the service to seize opportunities, and serve to shape the Navy across the Doctrine, Organization, Training, Materiel, Leadership, Education, Personnel, and Facilities (DOTMLPF) spectrum. The process will capitalize on a strategic top-down approach, while enabling full and seamless integration with joint and coalition operations and requirements.

4. Objectives

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

(1) New ideas can come from any where and at any time, but must be systematically evaluated, developed, and implemented to be useful to Navy and the Joint Force.

(2) Concept ideas should cover the near to far term and be applicable across DOTMLPF lines of operation.

(3) Concepts will focus on strategic and operational perspectives in order to inform or shape tactical development.

(4) Concepts will incorporate the ability to leverage and influence joint and coalition CGCD.

(5) The reality of fiscal constraints can drive a need for generating and developing a new concept.

b. Establish a process that ensures proper alignment of responsibilities for CGCD.

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

(2) Align Navy CGCD with joint and coalition processes.

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

c. Generate and ultimately develop concepts that define potential future capabilities to meet known and projected warfighting challenges and opportunities, and provide the basis for sound investment decisions.

## 5. Definitions

a. Relationships. As described in reference (b), there exists a hierarchy of military concepts. These relationships are described below and pictorially shown in figure 1.

(1) There are four basic levels of military concepts which form a hierarchy. From top to bottom, these are:

(a) Institutional concepts, which describe military institutions

(b) Operating concepts, which describe how military forces operate

(c) Functional concepts, which describe the performance of individual military functions or sub-functions

(d) Enabling concepts, which describe the capabilities required in order to perform military functions or sub-functions

### HIERARCHY OF MILITARY CONCEPTS

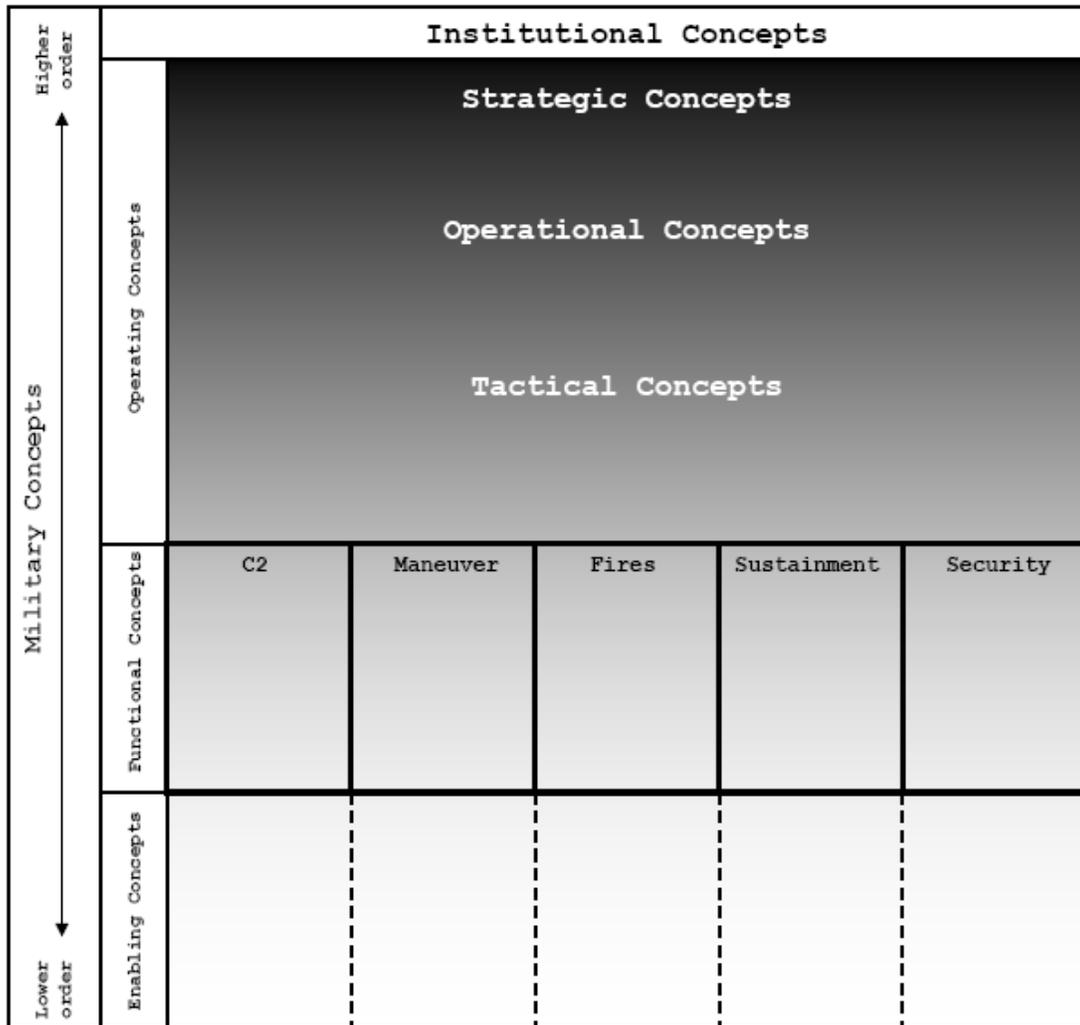


Figure 1.

(2) Military concepts are hierarchical, with their place in the hierarchy dependent on the level of generality of the concept. In this way, military concepts have subordinate, superordinate, and adjacent relationships to one another. In general, a concept should cover the widest range of situations that can be treated effectively with one set of language and principles. Subordinate concepts are created where more specific guidance than can be provided by the higher concept is required.

b. Concept Linkage. All Navy concept documents must at a minimum have direct linkage to the effects and capabilities described in at least one of the higher-level concepts. For example, an "enabling concept" will link to at least one "functional concept" which, in turn, provides the linkage to an overarching Navy operating concept. Likewise, the Navy operating concepts have direct linkage to the Joint Operations Concepts family. This linkage ensures all concepts seek to solve warfighter capability needs.

c. Concept. A concept is a notion or statement of an idea with an expression of how something might be done; a visualization of future operations that describes how a commander, using military art and science, might employ capabilities necessary to meet future challenges and explore potential opportunities. Per reference (c), a properly developed concept will produce improvements to current capabilities, render previous capabilities obsolete, or force the enemy to adapt to our method of warfighting. The concept should have direct application to a problem which, if solved, will enable the Navy or Joint Force to gain strategic or operational advantage. A concept should have a purpose, timeframe, definition of a specific military problem, a proposed transformational solution to include how operations may be conducted, potential endstates for solving the military problem using the proposed concept, and the broad military capabilities needed for implementing the concept. Additionally, a concept should include risks and mitigations and potential implications across DOTMLPF.

d. CGCD Program Overview. Figure 2 provides an overview of the CGCD functional steps, beginning with the consolidation of ideas which produce the best capabilities for naval and joint maritime operations, near to far term, selecting the most promising ideas for development, ending with the implementation of the actions resulting from the concept development, and delivery of the capabilities to the fleet.

## Navy Concept Generation & Concept Development Overview

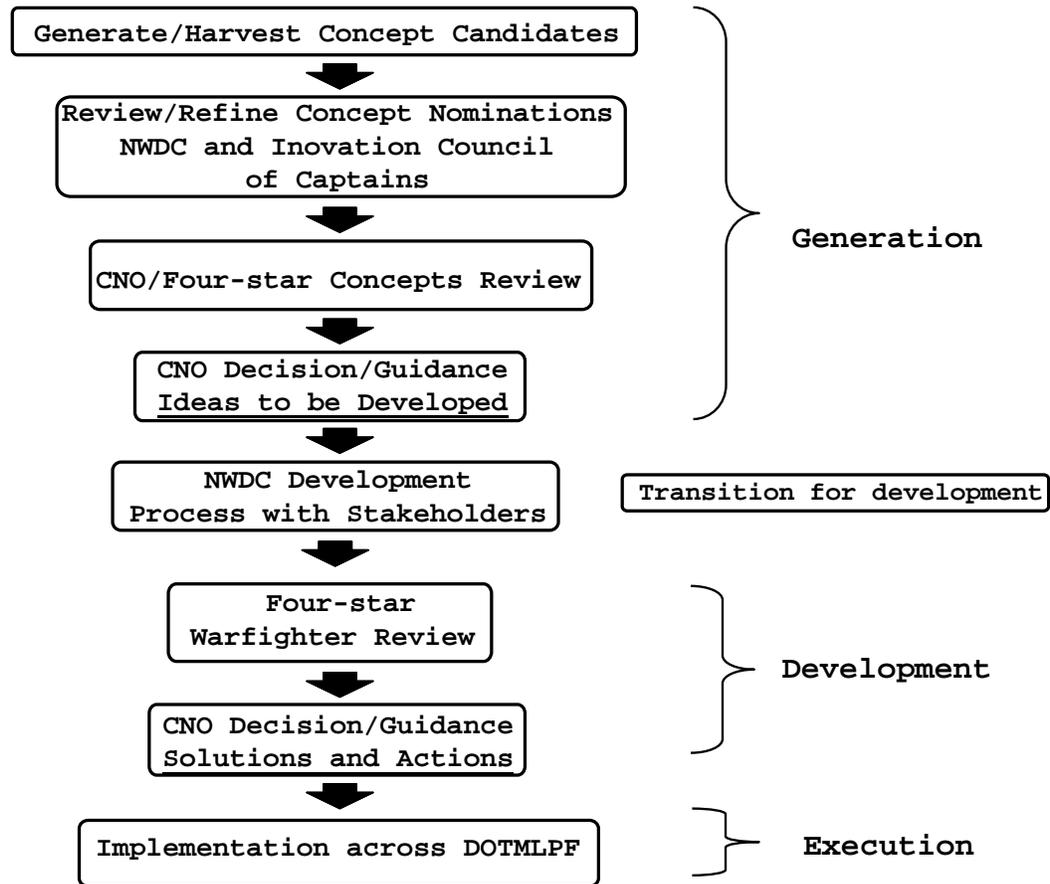


Figure 2.

e. Concept Generation. Per enclosure (1), the harvesting of ideas, definition of associated challenges or opportunities, assessment of value and feasibility of ideas, and identification of ideas worthy of further development. Concept papers are generally written at this stage, in a broad manner, to introduce the problem, key ideas, and potential solutions. Any Navy organization can submit papers describing concept candidates. As described in paragraph 7, concept candidates will be reviewed and, if approved, developed further by a Concept Development Team (CDT). The concept paper will be forwarded by Commander, United States Fleet Forces Command (COMUSFLTFORCOM) for expeditious 4-Star review and comment on potentially significant changes prior to presentation to the Chief of Naval Operations (CNO). These viewpoints will be forwarded to Navy Warfare Development Command (NWDC) for possible inclusion as appropriate, but will be forwarded in entirety when the concept is presented to CNO.

f. Concept Development. The encapsulation of ideas into a coherent structure to pursue potential solutions; vetting and validating ideas through analytical studies, workshops, experimentation, war games, and, when required, live force experiments; transition of solutions to responsible agencies for action and to enable implementation per enclosure (2). A key portion of concept development is ensuring execution of pertinent actions to deliver capability. At the completion of the vetting and validation portion of concept development, a plan for actions required to implement the concept (developed by NWDC in collaboration with concept stakeholders) will be forwarded by COMUSFLTFORCOM to 4-Star Warfighters for review and comment. The comments will be presented to CNO when they consider the proposal for "required actions."

g. Concept of Operations (CONOPS). Warfighting or operational concepts are different than CONOPS for specific systems and platforms. The CGCD process does not develop CONOPS. A CONOPS, as used in this context, can be either a document generated by the Office of the Chief of Naval Operations (OPNAV) used for the two-pass, six-gate Department of the Navy (DON) requirements and acquisition governance process or a fleet CONOPS. An acquisition CONOPS includes a description of capability employment, sustainment, basing, training, and manning to support life-cycle cost estimates. A Fleet warfighting CONOPS is a written document specifying how the Fleet will employ current capabilities and/or capabilities that will reach Initial Operational Capability (IOC) within the Future Years Defense Plan (FYDP) to effectively and efficiently perform the missions assigned by the Combatant Commander to naval forces. A Fleet platform wholeness CONOPS is a written document specifying how the Fleet will man, train, equip for, and maintain new capabilities that will reach IOC within the FYDP.

6. Roles and Responsibilities. This instruction provides the authorities to assign tasks to supporting organizations for fulfillment of the responsibilities listed below.

a. CNO

(1) Approves concepts for development.

(2) Chairs the CNO/4-Star Warfighter Review, comprised of Vice Chief of Naval Operations (VCNO); COMUSFLTFORCOM; Commander, United States Pacific Fleet (COMPACFLT); Commander, United States Naval Forces Europe (COMUSNAVEUR); and others as

designated by CNO. The CNO/4-Star Warfighter Review acts to approve or reject concepts for further development.

(3) Approves the implementation plans which designate stakeholders' assigned actions resulting from the CGCD program.

b. Deputy Chief of Naval Operations (Operations, Plans and Strategy (DCNO (N3/N5)))

(1) Via OPNAV Strategy and Policy Division (OPNAV (N51)), generate concepts and assist in the consolidation and development of concept candidates.

(2) Coordinate with Naval Warfare Integration Group (CNO (N00X)) as necessary in the management and execution of the CGCD program.

(3) Provide assistance and collaborate with NWDC for concept generation and concept development.

(4) Participate in the Innovation Council of Captains.

c. CNO (N00X)

(1) Act as the CNO's Office of Primary Responsibility (OPR) for the CGCD program.

(2) Coordinate with NWDC on tracking implementation actions, including costs and savings, associated with approved concepts and reporting progress quarterly to the CNO.

(3) Provide assistance and coordination to NWDC and other CGCD stakeholders as required to meet CNO vision and guidance.

(4) Provide assistance and collaborate with NWDC for concept generation and concept development.

(5) Participate in the Innovation Council of Captains.

d. NWDC

(1) Act as the Executive Agent (EA) for the CGCD program.

(2) The responsibilities of NWDC:

(a) As EA, actively satisfy ongoing CGCD program management requirements and goals.

(b) Maintain a supported/supporting relationship with CNO Strategic Studies Group (SSG), Naval War College, OPNAV (N51) and other partners for concept generation. The supported organization will vary dependent on the tasks to be completed.

(c) Maintain a supported/supporting relationship with United States Joint Forces Command, Navy Component Commanders (NCCs), operational and platform agents, other Services and the North Atlantic Treaty Organization for concept development. The supported organization will vary depending on the tasks to be completed.

(d) Maintain existing supported/supporting relationship with the Warfare Centers of Excellence (WCOEs) to develop and integrate/coordinate concepts, CONOPS, doctrine, and experimentation with the Navy Tactical Development and Evaluation Program. The supported organization will vary depending on the tasks to be completed.

(e) Maintain a supported/supporting relationship with the Office of Naval Research (ONR) and Navy laboratories for technology solutions to the challenges listed in the concepts developed under the CNO's CGCD Program. The supported organization will vary depending on the tasks to be completed.

(f) Coordinate with the University Affiliated Research Centers (UARCS) and industry for technology solutions identified in the concepts.

(g) Establish, promulgate, and update as necessary a Navy CGCD guide to provide a standardized format and procedures for concept submission and CGCD program process information.

(h) Generate and/or consolidate ideas for potential concept development.

(i) Conduct a preliminary assessment of concept candidates to determine whether sufficient detail exists to judge fitness of each idea for development.

(j) Supported by appropriate Subject Matter Experts (SMEs) from other commands/organizations, assess candidate concepts, draft required concept papers and briefs, and submit to the CNO for decision on development. Plan and execute

concept development in coordination with appropriate stakeholder organizations, when so directed by the CNO. Enclosures (1) and (2) refer.

(k) Lead the activities and serve as the executive secretary of the Innovation Council of Captains and CDTs. In this capacity, NWDC will plan and execute the meetings and prepare and submit meeting minutes.

(l) Serve as the executive secretary for CNO/4-Star Warfighter Review. In this capacity, NWDC will plan and execute the meetings and prepare and submit meeting minutes. NWDC will also develop and maintain processes to conduct these reviews electronically.

(m) Provide concept and recommended solution list to COMUSFLTFORCOM for 4-Star Warfighter Review.

(n) Speak on behalf of the Navy on all matters associated with the concepts generated and developed under this program.

(o) Champion a culture Navy-wide which is favorable and supportive of innovation.

(p) Track and report to the CNO the status of actions, including costs and savings, produced by the CGCD program.

(q) In coordination with CNO (N00X), track the completion of actions needed to implement concepts and report the status quarterly to the CNO.

e. CNO/4-Star Warfighter Review

(1) The CNO/4-Star Warfighter Review, chaired by the CNO, is comprised of VCNO, COMUSFLTFORCOM, COMPACFLT, and COMUSNAVEUR and will act as the upper-level formal review authority for concepts submitted for consideration.

(2) NWDC will serve as the executive secretary for all concept review activity.

(3) The responsibilities of the CNO/4-Star Warfighter Review:

(a) Conduct a review of ideas forwarded by the NWDC and provide feedback for improvement and refinement.

(b) The CNO approves concepts deemed suitable for further refinement and/or concept development.

f. COMUSFLTFORCOM

(1) Participate in CNO/4-Star Warfighter Review.

(2) Task the development of Fleet CONOPS that are derived from the concepts produced within the CGCD program to the appropriate operational or platform agents.

(3) Co-chair with COMPACFLT the 4-Star Warfighter Review.

(4) Provide representation to the Innovation Council of Captains and CDT.

g. 4-Star Warfighter Review

(1) Co-chaired by COMUSFLTFORCOM and COMPACFLT, including COMUSNAVEUR.

(2) The responsibilities of the 4-Star Warfighter Review:

(a) Review concept and recommended solution list.

(b) Ensure the developed concept meets the following four goals:

1. Institutionalize a regular process by which OPNAV (via CNO (N00X) and NWDC) can drive execution of key actions to deliver capability. The process fully engages the Fleet and other key stakeholders in a collaborative fashion. This process should enable earlier and greater visibility on shortfalls in meeting execution timelines and expose incongruent efforts or resourcing issues, so these can be dealt with in a timely manner to keep concept development on track.

2. Highlight required CONOPS efforts for acquisition processes much earlier in the decision cycle and enable assignment of key tasks.

3. Link OPNAV studies and analyses with current Fleet concerns as expressed in concepts and CONOPS DOTMLPF terms per enclosure (2).

4. Ensure senior level attention is focused on implementation of new concepts once developed.

h. President, Naval War College (NAVWARCOL)

(1) Foster an innovative environment in the academic curricula from which new concepts can be generated.

(2) Support the CGCD program, generate strategic concepts, and support assessment and validation of concepts through workshops and war games.

i. Innovation Council of Captains

(1) The Innovation Council of Captains, comprised of representatives from NWDC, DCNO (N3/5), CNO (N00X), OPNAV Special Programs Division (OPNAV (N89)), Office of Naval Intelligence (ONI), ONR, NAVWARCOL, CNO SSG, COMUSFLTFORCOM, COMPACFLT, and the WCOEs, as applicable, will act as the stakeholder community initial review for potential concepts submitted for consideration.

(2) The responsibilities of the Innovation Council of Captains:

(a) Conduct an initial review of ideas that are collected and provide feedback to the NWDC and the submitting partner for concept improvement and refinement.

(b) With NWDC, develop the concept nominations for further consideration by the CNO/4-Star Warfighter Review .

(c) Act on feedback from the CNO/4-Star Warfighter Review to refine ideas before the final nomination package is forwarded to the CNO.

(d) Expeditiously forward ideas that warrant fast-track consideration and/or are submitted at an inopportune time in the CGCD cycle.

(e) Provide feedback on concept proposals to submitting organization.

(f) Participate in concept development by reviewing the concept validation results and potential solutions.

j. CDT

(1) The CDT(s) will be comprised of a small core of staff led by NWDC and augmented by SMEs selected from other organizations (such as WCOEs), as required, that are appropriate for the particular concept being developed.

(2) The CDT responsibilities:

(a) Develop a specific, concept-focused team with SME support from the appropriate stakeholder commands and activities to refine the concept's potential solutions, validate a concept's feasibility, and recommend the best solution set via validation, testing, experimentation, and/or analysis activities.

(b) Draft concept capability white papers based on the outcome of validation, testing, experimentation, and/or analysis activities.

(c) Coordinate with specific CNO-assigned resource sponsor, appropriate OPNAV N-codes, and appropriate stakeholders for review and comment prior to CNO implementation decision.

k. Other Commands/Activities. These organizations include NCCs, numbered fleet commanders, ONR, ONI, WCOEs, Naval Postgraduate School, UARCS, and other activities, as appropriate.

(1) The role of other commands/activities is to contribute to the CGCD program process as enabled by their unique position within the DON organization.

(2) The responsibilities of other commands/activities are as follows:

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

(b) Provide candidate concepts.

(c) Provide scientific and technological leadership and experience, and research and evaluate the feasibility of proposed technological solutions.

(d) Serve as a conduit to various government scientific and technological agencies and the scientific community and/or industry for concept solution sets.

(e) Foster an innovative environment in the academic curricula from which new concepts can be generated.

(f) Support the assessment and validation of proposed concepts through workshops, war games, analytical studies, sea trials, and other events.

(g) Maintain a supported/supporting relationship with NWDC. The supported command will vary depending on the tasks to be completed.

1. OPNAV N-Codes. These shall include those Deputy Chief of Naval Operations offices that have specific organizational expertise in particular issues addressed in the concepts.

(1) Assist the CDT(s) to refine the potential solutions, validate the concept's feasibility, and recommend the best solution set via validation, testing, experimentation, and/or analysis activities.

(2) Assist the CDT(s) for transition of CNO-approved concepts and their solution sets to appropriate organizations for funding and implementation.

(3) Implement the actions approved by the CNO to include entry into the Joint Capabilities Integration and Development System (JCIDS)/Planning, Programming, Budgeting, and Execution (PPBE) processes, as appropriate.

7. Process. The CGCD process will be divided into two separate phases: the concept generation phase and the concept development phase, as described below.

a. Concept Generation Phase

(1) This phase of the program takes as its premise the notion that only an open and free flow of ideas can produce truly transformational concepts – the very type of concepts which Navy requires to succeed in the future operating

environment. Thus, while NWDC (as EA) will collaboratively generate and/or harvest ideas, these ideas can come from anywhere at any time (e.g., Services, academia, industry, and the joint arena).

(2) NWDC will work directly with partner activities to identify ideas worthy of more in-depth consideration and possible development.

(3) Initial submissions will be forwarded to NWDC for collating and preliminary investigation/development of detail in conjunction with the submitting partner and relevant SMEs on a semi-annual basis.

(4) The Innovation Council of Captains will conduct an initial review of collected ideas and provide feedback to NWDC and the submitting partner. NWDC and the Innovation Council of Captains will refine candidate ideas, as required, and NWDC will forward a summary of the nominated concepts for further consideration to the CNO/4-Star Warfighter Review.

(5) The CNO will consider concept candidates and follow one of three courses of action:

(a) Approve the concept candidate for further development.

(b) Return the concept candidate to NWDC or the originating activity for refinement/clarification.

(c) Dismiss the concept candidate.

(6) Those ideas approved by the CNO for further development will be forwarded to the concept development phase. NWDC will create a tailored CDT for execution of the concept development phase.

b. Concept Development Phase

(1) Concept development occurs in phases that may be in parallel or series. These phases are:

(a) Identification of appropriate actions and stakeholders necessary to develop a concept that documents the addressed warfighting problems/challenges and the proposed solutions across DOTMLPF.

(b) Assignment of responsible organizations with proposed timelines for refinement of the potential solutions.

(c) Validation of the concept feasibility.

(d) Recommendation the best solution set via testing, experimentation, wargaming, and/or analysis activities.

(e) CNO approval of further actions as required, such as technology development or acquisition transition.

(2) NWDC will form and lead CDTs for each CNO-directed concept throughout the concept development process. CNO (N00X) will collaboratively support concept development as the OPR and participate in development of high interest operational concepts.

(3) Concepts can fall into at least three product categories for development, and will therefore be assigned an appropriate CNO-designated resource sponsor at the beginning of concept development. These three product categories include:

(a) Programmatic concepts (Deputy Chief of Naval Operations (Manpower, Training and Education (DCNO (N1)), Deputy Chief of Naval Operations (Information Dominance (DCNO (N2/N6)), Deputy Chief of Naval Operations (Logistics and Readiness (Deputy (N4))), and Deputy Chief of Naval Operations (Integration of Capabilities and Resources (DCNO (N8))).

(b) Technology solutions (ONR, labs and other science and technology organizations).

(c) Strategic/operational concepts (DCNO (N3/N5), NWDC, NAVWARCOL, CNO SSG).

(4) The CDTs will validate concept feasibility, refine or analyze potential solutions, and assess solution viability. These processes include codification in concept papers, wargaming or inclusion in live event scenarios, concept validation workshops or special panel discussions or analytical studies. Once the CDT has completed its evaluation and developed a validated concept with a recommended set of capabilities as a proposed solution, it will undergo COMUSFLTFORCOM/COMPACFLT-led 4-Star Warfighter Review. Upon completion of the review, NWDC, working collaboratively with CNO (N00X), will present the concept and proposed implementation plan to the CNO for decision.

(5) CNO-approved concepts and their solution sets will be passed to OPNAV, COMUSFLTFORCOM, and NWDC for appropriate actions in the following areas:

- (a) JCIDS for acquisition.
- (b) Resources.
- (c) CONOPS.
- (d) DOTMLPF actions/change requests.
- (e) Doctrine development.

(6) For concepts that have been fully vetted through this generation and development process and have been CNO-approved for implementation, NWDC will provide appropriate feedback to the Innovation Council of Captains that conducted the initial idea review. Approved concepts and solution sets are forwarded to the appropriate OPNAV N-codes to support campaign analysis and PPBE inputs and will be worked with appropriate organizations to promote all aspects of required DOTMLPF changes.

(7) After transition of the concept to the action commands, NWDC will monitor and periodically review the status of the actions to ensure successful transition to implementation across DOTMLPF.

8. Action. Organizations listed in paragraph 6 are to support this program by executing the process outlined above and illustrated in enclosures (1) through (3).

9. Records Management. Records created as a result of this instruction, regardless of media and format, shall be managed per Secretary of the Navy Manual 5210.1.

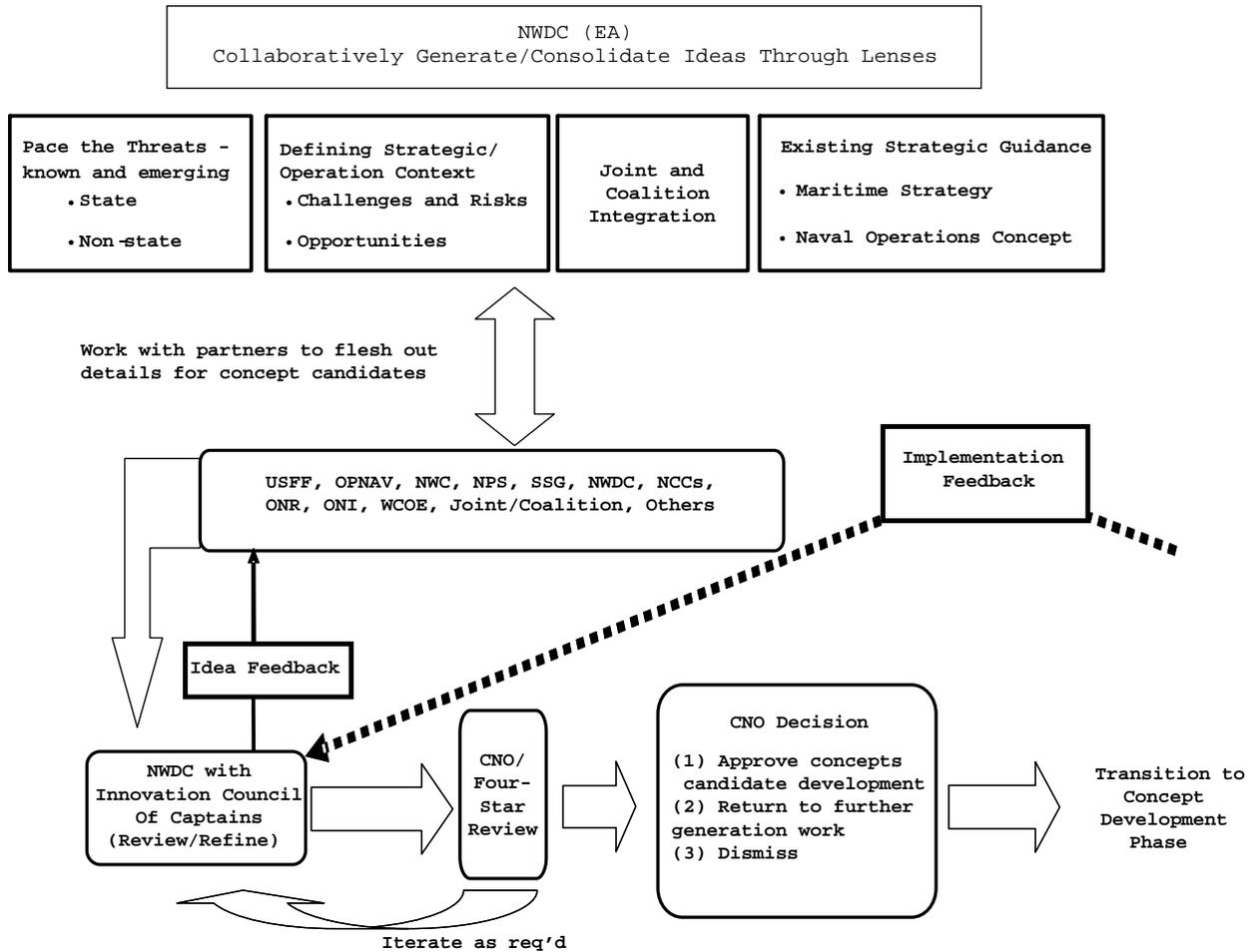
10. Mission. This instruction shall be reviewed annually and revised as necessary to incorporate lessons learned.

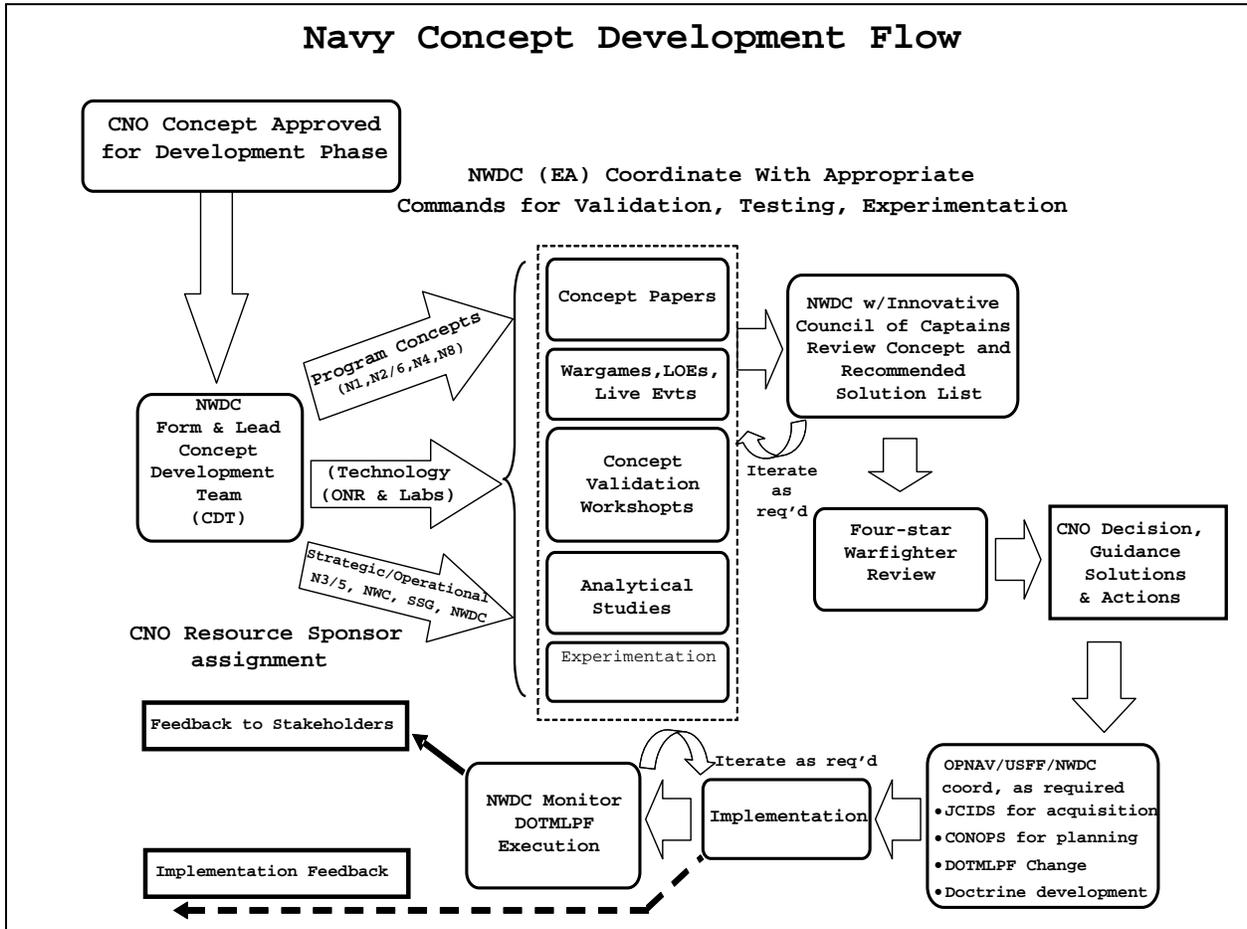
  
G. ROUGHEAD  
Admiral, U.S. Navy

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## Navy Concept Generation Flow





**ORGANIZATIONAL STRUCTURE CHART**

<b>Group</b>	<b>Meeting Periodicity</b>	<b>Chair</b>	<b>Executive Secretary</b>	<b>Membership</b>
<b>Innovation Council of Captains</b>	Quarterly	NWDC (EA)	NWDC	NWDC, DCNO (N3/N5), OPNAV (N89), CNO (N00X), NAVWARCOL, CNO SSG, ONR, ONI, COMUSFLTFORCOM/COMPACFLT*, WCOEs
<b>CNO/4-Star Warfighter Review</b>	As Required	CNO	NWDC	CNO, VCNO, COMUSFLTFORCOM, COMPACFLT, COMUSNAVEUR
<b>CDT</b>	As Required Plan of Action and Milestones for Concept Development	NWDC (EA)	NWDC	SMEs from COMUSFLTFORCOM, NWDC, NAVWARCOL, appropriate stakeholders and OPNAV N-codes
<b>4-Star Warfighter Review</b>	As Required	COMUSFLTFORCOM, COMPACFLT	COMUSFLTFORCOM	COMUSFLTFORCOM, COMPACFLT, COMUSNAVEUR, others as appropriate

\* COMUSFLTFORCOM and COMPACFLT will represent the NCCs.