

Navy Warfare Development Command

# Guide for Navy Concept Generation and Concept Development Program

June 2011



*Game Changing Innovations*

## Foreward

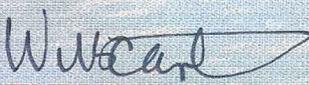
To confront rapidly changing challenges and exploit opportunities in the maritime operating environment the Navy must embrace a renewed and enduring culture of innovation. It is imperative to engender and cultivate innovative ideas that anticipate what capabilities will be required and how to take advantage of emerging opportunities. The intent of this guide is to inform and assist those who are generating and developing Navy concepts or who desire a better understanding of the Navy concept generation and concept development process.

The first and perhaps most important step in building a culture of innovation is the establishment of a process for harvesting and harnessing powerful ideas. Within this process the vehicle for propelling an idea from a hypothesis into reality is the written word. This guide describes the Navy's process for writing clear, compelling concepts that can transform ideas into game changing innovations.

The Chief of Naval Operations established the Navy Concept Generation and Concept Development (CGCD) Program to provide a collaborative approach and structure for developing new Navy strategic and operational concepts. This program is governed by OPNAVINST 5401.9. Commander, Navy Warfare Development Command (CNWDC) is designated as the Executive Agent (EA), and Director, Naval Warfare Integration (N00X) is the CNO Office of Primary Responsibility (OPR) for the program.

Our forces must be configured and able to respond to a myriad of assigned missions. Empowered with an effective and responsive concept process the Navy will be better able to define and develop the capabilities our forces need to meet near, mid, and far term demands across the Doctrine, Organizational, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) spectrum.

Additional information is available through the Concepts link on the NWDC Website:  
<https://www.nwdc.navy.mil>.

  
WENDI B. CARPENTER  
RADM USN

**“And let it be noted that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.**



**For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries, and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it.”**

**- Niccolò Machiavelli**

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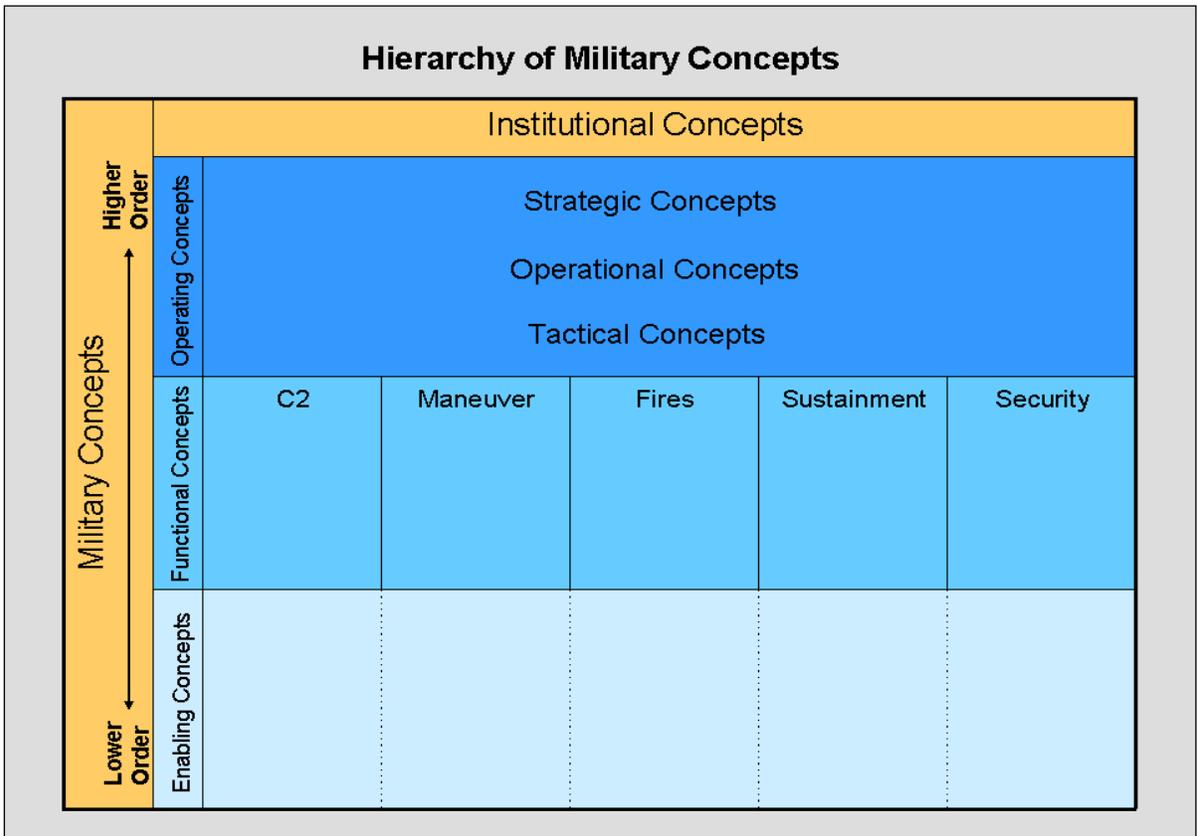
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## Purpose

This guide provides a common framework and practical guidelines for those who are generating, writing, and developing new Navy concepts at the strategic and operational levels. It describes the hierarchy and types of concepts, the relationships between them, and provides considerations to assist in drafting a concept and its related documents. The document also describes the process for evaluating the validity and quality of those concepts, includes Navy's Concept Generation and Concept Development Program (CGCD) and process information, and the procedures for concept submission.

## What is a Concept?

Military concepts reflect national, military and Service strategies and are hierarchical with superior and subordinate relationships (see Figure 1).



**Figure 1. Hierarchy of Military Concepts**

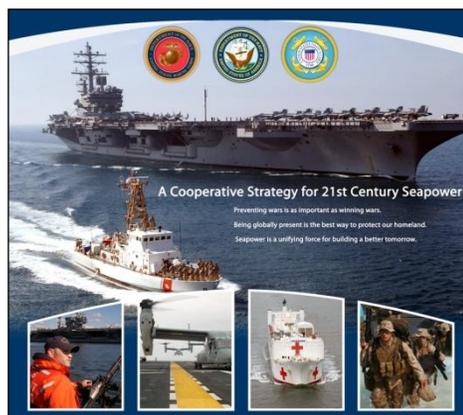
Four basic levels of military concepts form a hierarchy:

- Institutional concepts, that describe military institutions
- Operating concepts (strategic, operational, and tactical levels) that describe how military forces operate

- Functional concepts which describe the performance of a military field of specialization (such as command and control, maneuver, fires, or security)
- Enabling concepts which describe the accomplishment of a particular task that makes possible the performance of a broader military function

Within the hierarchy, overarching concepts provide broad, general guidance, whereas subordinate concepts provide more detail and specific guidance for example, operating concepts provide the basis and guidance for functional or enabling concepts.

An essential aspect of concepts is ensuring direct linkage to the effects and capabilities described in higher-level concepts or policy documents. That is, Navy concepts must support the Maritime Strategy, *A Cooperative Strategy for 21<sup>st</sup> Century Seapower*, and the Naval Operations Concept (NOC) which provide Service-level strategy and a link to national guidance (National Security Strategy, National Defense Strategy, National Military Strategy, and the Quadrennial Defense Review), and also support the implementation of overarching guidance. Navy operating concepts also have a relationship to the family of joint concepts. This linkage ensures all concepts seek to solve warfighter capability needs and are integrated in a mutually supporting manner to optimize development.



The Capstone Concept for Joint Operations (CCJO) is the overarching concept of the family of joint operating concepts<sup>1</sup> that guides the development of future joint capabilities. Navy operating concepts inform the development of these joint concepts and represent Navy capabilities and equities in the Joint Concept Development and Experimentation (JCD&E) process.

In this guide it is important to clarify the distinction between “operating concept” and “operational concept.” The term “operational” refers to the operational level of war and the term “operating concept” refers to the conduct of military action independent of the level of war. An operating concept could be at the strategic, operational, or tactical level.

<sup>1</sup> CJCSI 3010.02B

Operating, functional, and enabling concepts are also distinct from “concepts of operations.” A concept of operations (CONOPS) is defined as “a verbal or graphic statement that clearly and concisely expresses what the joint force commander intends to accomplish and how it will be done using available resources...”<sup>2</sup>

CONOPS are also developed in support of the Joint Capabilities Development and Integration System (JCIDS), the disciplined and integrated process for requirements and acquisition decision making. These CONOPS include a description of capability employment, sustainment, basing, training, and manning to inform life-cycle cost estimates. They apply to all major Navy acquisitions in the two pass, six gate approval process described in and governed by Department of Defense (DoD) Instruction and Secretary of the Navy (SECNAV) Notice<sup>3</sup>. Also within the category of CONOPS there are Fleet CONOPS which are governed by U.S. Fleet Forces Command (USFFC) Instruction<sup>4</sup> and consist of two types: warfighting CONOPS and platform wholeness CONOPS. The Fleet CONOPS instruction defines a concept as a high-level document that is generated based on an identified capability required by the warfighter.

A concept identifies the “what” needed to address a capability gap and a CONOPS describes “how” that capability would be used. After capability employment is validated (studies, experimentation, and/or Fleet certification), doctrine is modified or new doctrine, and standard operating procedures are produced for use by the Fleet.

Concepts describe how a commander, using military art and science, might employ capabilities necessary to meet current and future challenges or exploit opportunities. They may propose ways to improve current capabilities, or address new methods of employing current capabilities, or introduce new capabilities required to outpace future challenges. The key elements within the concept are the capabilities required to realize the ideas expressed and the potential solutions that would provide those capabilities. Concepts have a purpose, a timeframe, define a specific military problem, and propose solutions to that problem. They also include a description of the risks associated with implementing the concept and proposed ways to mitigate that risk.

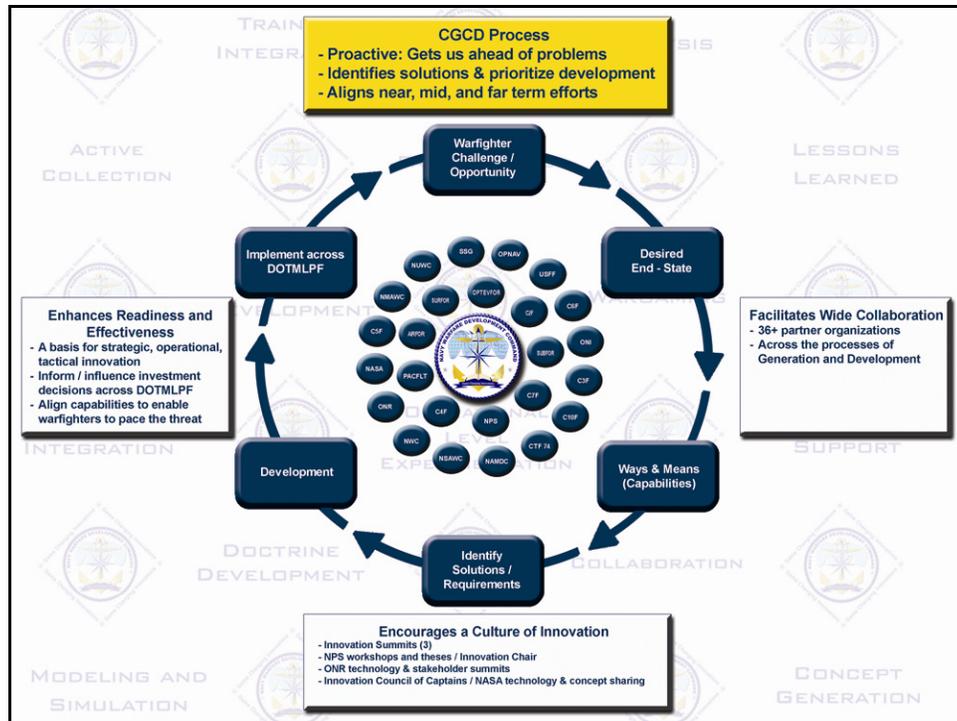
Implementing a concept involves changing the way things are currently done. Hence concepts must address the implications of changes across the range of Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF). A concept will describe the required actions across the near (1-3 years), mid (4-8 years), and far-term (beyond 8 years) that are necessary to achieve the described capabilities. The following figure (Figure 2.) illustrates the process and contributions of the CGCD program.

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<sup>2</sup> Joint Publication JP 1-02

<sup>3</sup> Department of Defense Instruction Number 5000.2 of December 8, 2008 and SECNAV Notice 5000 of February 26, 2008

<sup>4</sup> U.S. Fleet Forces Command (USFFC) Instruction 5401.1A, Fleet Concept of Operations (CONOPS) Development



**Figure 2. The CGCD Process**

### **What Concepts are Best Candidates for the Navy CGCD Program?**

Any idea or thought may be a concept, consequently there are many different types of concepts dependent on what the idea is trying to accomplish. The Navy CGCD Program focuses on concepts that meet the following criteria:

- Is the idea at the strategic or operational level?
- Does it provide a strategic or operational advantage?
- Does it solve a military problem or avail an opportunity?
- Does it address multiple capabilities/solutions providing a holistic view and fulfilling an integration function?
- Does it apply across a range of scenarios vis-à-vis limited to a specific condition?
- What are the changes proposed by the idea and relative value?
- Is it reasonably feasible?
- Will it result in a significant change in the way the Navy operates – not just incremental improvements?

### **Why Do We Need Concepts?**

Too often the Navy is driven and constrained by near term requirements, the budgeting process, the pressures of resource sponsors and existing programs of record. Concepts acknowledge, but look beyond volatile resource constraints. This allows for a realistic focus on an existing or projected military challenges or opportunities, the required capabilities to overcome the challenge or avail the opportunity, and a variety of potential solutions. Without a concept foundation, the processes of delivering capabilities may not



process results in a capability-based product. With the holistic concepts as the focal point, and integration across the full DOTMLPF spectrum, the Navy is better positioned to deliver the right capabilities with increased effectiveness with improved efficiency.

The concepts generated and developed under the Navy's CGCD Program are useful for joint and other service planners in understanding how the Navy is organized and intends to operate so they can correctly incorporate Navy capabilities in joint planning. They also can be used to inform and influence joint concepts and represent Navy equities in the joint CD&E process.

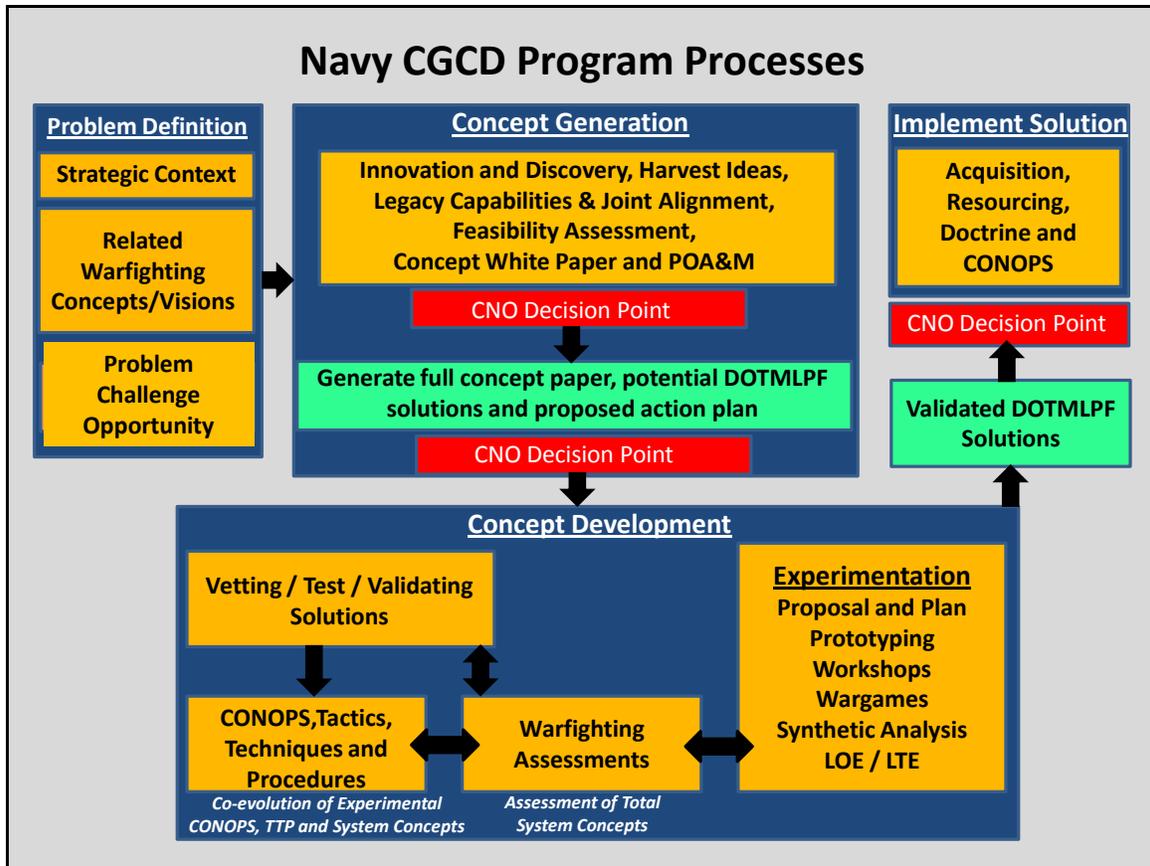
Concepts drive changes and without changes we risk following behind the challenges presented by potential adversaries. Generation of ideas is stirred to action by the creation and sustainment of an innovation environment and innovation culture where everyone is encouraged and rewarded for new ideas that will significantly change today's and tomorrow's Navy.

“Neither a wise man nor a brave man lies down on the tracks of history to wait for the train of the future to run over him.”

**- Dwight D. Eisenhower**

### **Navy CGCD Program Processes**

The CGCD program established a systematic approach for transforming ideas into reality. Figure 4 provides an overview of the CGCD processes. It is important to recognize the three related but separate and distinct phases: concept generation, concept development, and implementation of solutions. Additionally, concept processes are non-linear. They may work in sequence, parallel, independently, and/or in coordination with other capability processes.



**Figure 4. Navy CGCD Program Processes**

Concepts inform and support the Navy’s Planning, Programming, Budgeting, and Execution (PPBE) process. Validated concepts provide valuable and defensible inputs for the development of the Navy Strategic Plan (NSP) and Navy Strategic Guidance (NSG) as well as the Navy Strategic Planning Process (NSPP). The NSP and NSG guide Navy investment decisions, identify priorities, and critically examine risk in terms of missions. The NSPP develops strategic planning guidance to identify and prioritize the capabilities and their attributes to provide a fleet trained, organized, and equipped in accordance with the Maritime Strategy and the NOC. It is vitally important to our Navy to provide the best concepts possible to support future capability requirements.

In 2011 U.S. Fleet Forces Command initiated a Fleet Concept Generation and Concept Development Program. The difference between the “Navy” and the “Fleet” CGCD programs is the areas of focus. The “Fleet” program generates concepts that will primarily be at the upper tactical level, with excursions into the lower operational level of war. Moreover Fleet concepts will seek new ways to use the capabilities in the Fleet today plus those capabilities included within FYDP programs of record, i.e., a near term focus. On the other hand the “Navy” program focus is at the operational level with strategic and tactical excursions and is not limited to current or programmed capabilities, which provides the opportunity to look near to far term. USFF N9 is responsible for generating and developing concepts that meet Fleet CGCD program criteria.

## Concept Generation Phase

The Concept Generation Phase is about research; discovery; defining gaps, challenges, and opportunities; and bringing together stakeholders. It requires an understanding of the

“Staying attuned to potential paradigm shifts or new technological challenges/opportunities will require persistent hunting and gathering within and beyond Navy Lifelines.”

- ADM Jonathan Greenert

strategic and operational context as defined by the national, military and maritime strategies; and the NOC; and the applicable coalition, joint, and naval warfighting concepts and visions. It also requires a determination of potential issues and risks inherent in acceptance of the concept. The Concept Generation Phase has three parts: first is the harvesting of new ideas, second is

selecting ideas that meet CGCD Program standards and nominating them to the CNO, and third is the generation of a full concept paper. CNO may task the generation of a full concept paper skipping parts one and two of the generation phase.

Harvesting and Nomination. When an idea for a new concept is generated external to NWDC the originator can submit the proposed idea to [Navy\\_Concepts@navy.mil](mailto:Navy_Concepts@navy.mil) or [Navy\\_Concepts@navy.smil.mil](mailto:Navy_Concepts@navy.smil.mil). In addition, the originator may contact Mr. Jamie Buchanan at 757-341-4240 for assistance. For each proposal submitted, NWDC will identify a point of contact to assist the originator with the required information and formatting; and refining the potential conceptual idea into a white paper, point paper and associated PowerPoint quad chart. The white paper (5-8 pages) provides the key elements of the idea and how the idea would be further developed, if approved by CNO. Additionally, the white paper is a collaboration vehicle to involve other subject matter experts. The format for the white paper and an example is included in appendix A. The white paper is also used to produce a point paper (2-3 pages) and a PowerPoint quad chart (formats shown in appendix B and C).

### Sources of concepts:

- Strategic guidance
- New technologies
- Changes in the operating environment
- Ideas from:
  - Fleet
  - Academia
  - Industry

The point paper and quad chart will be used to present the proposed concept to the Innovation Council of Captains (ICoC)<sup>5</sup>. The ICoC will review the concept quad chart as well as the point paper and recommend the disposition of the proposal. The ICoC will recommend one of the following courses of action:

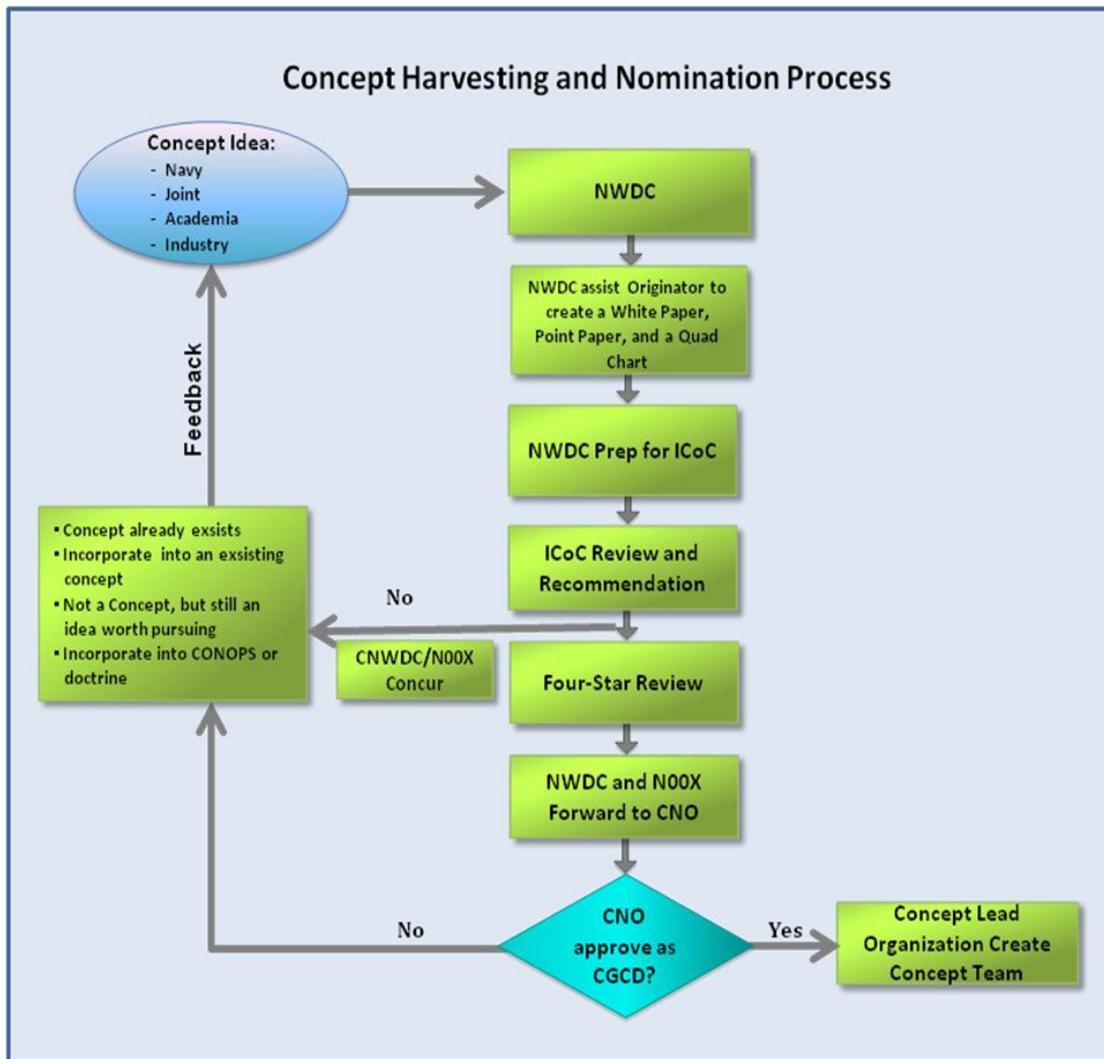
- Recommended as a candidate for the CGCD Program and submission to CNO.

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<sup>5</sup> The ICoC is comprised of representatives from NWDC; CNO N00X, N2N6, N51, N52, N80, N81, and N89; Office of Naval Intelligence (ONI); Office of Naval Research (ONR); Naval War College (NWC); CNO Strategic Studies Group (SSG); U.S. Fleet Forces (USFF); Pacific Fleet (CPF); and Fleet Cyber Command. The ICoC will conduct periodic concept candidate reviews, assess their potential value, and make candidate disposition recommendations.

- Recommended that the concept be returned to the originator. That is, as proposed it does not meet CGCD Program requirement but has potential if revised.
- The proposed concept, although not a candidate for the CGCD Program presents an innovative idea worth pursuing. In this case the ICoC will recommend an organization to pursue further development.
- The proposed concept may be incorporated into an existing concept (either in draft, generation, or development stage).
- The proposed concept presents an idea that can immediately be incorporated into a CONOPS or doctrine.

Approved concept proposals will continue to the next steps of the Concept Generation Phase which is forwarding the concept proposals and the ICoC recommendations to USFFC for the four-star review. Comments from the four-star review and the ICoC recommendations will be forwarded to CNO. The originators of the concept proposals will be provided feedback on the final disposition. Figure 5 presents an overview of this process.



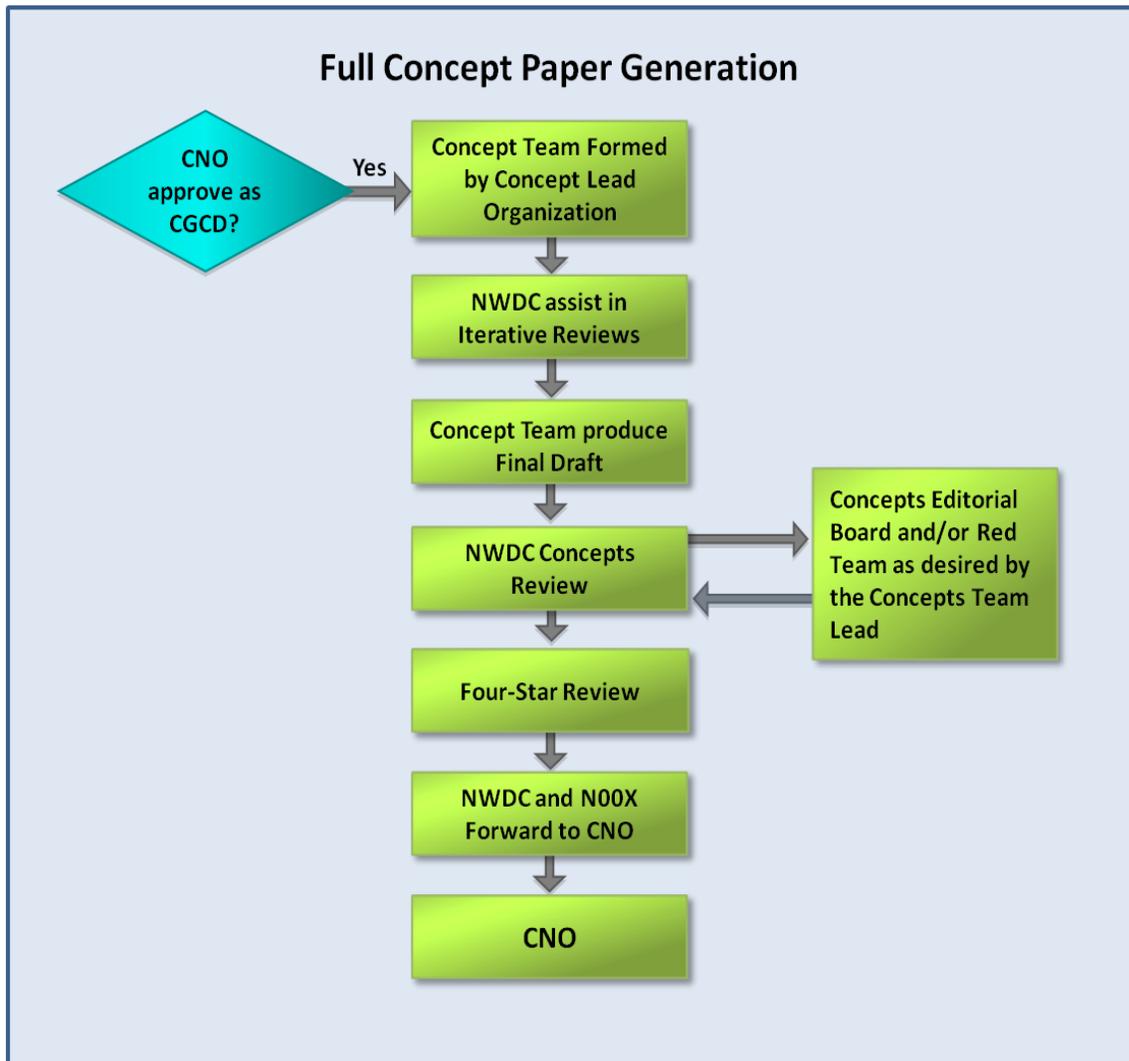
**Figure 5. Concept Harvesting and Nomination Process**

Concept White Paper, Point Paper, and Quad Chart. The product of the harvesting phase is a white paper (appendix A), point paper (appendix B), and quad chart (appendix C). Specific capabilities and solutions need not be addressed in these products. The white paper provides the basic information best provided by the originator and is the basis for producing the more succinct information in the point paper and quad chart. These latter two products are reviewed by the ICoC and may eventually be forwarded for a four-star warfighter review and to CNO for a decision on proceeding with the generation of a full concept paper.

Full Concept Paper Generation Phase. When a concept proposal is approved by the CNO for full concept generation, the designated lead organization will facilitate the formation of a tailored Concept Team (CT) made up of a small core group from the lead organization and augmented by appropriate subject matter experts (SMEs) from the stakeholder organizations. The CT will refine the ideas addressed in the concept white paper, determine potential solutions across the range of DOTMLPF, and generate the full

concept paper. Development of the full concept paper may require various combinations of research activities, seminars, workshops, wargames, and experiments, with stakeholder participation appropriate to the specific topic.

Concepts are not fully tested or proven during this phase. Rather, concepts present theoretical solutions that will be tested in the development phase. Figure 6 presents an overview of the full concept paper generation process.



**Figure 6. Full Concept Paper Generation**

Full Concept Paper. The product of the generation phase is a full concept paper. The concept paper is written for CNO as the primary audience. Secondary audiences will vary. It should be approximately 25 pages in length (exclusive of appendices) and should address solutions across near, mid, and far term. The concept paper should include most of the following sections. This list is not intended to be directive and the CT may tailor this list as needed to the particulars of the concept.

- **Executive Summary**  
This is the most important section for senior leadership who do not need the full details of the concept. It should provide a concise summary of the concept. It is not necessary to include risks and mitigation or considerations.
- **Purpose**  
This section should clearly and concisely state why the concept is being written. It should include the intended audience and intended use of the concept.
- **Scope**  
The scope should manage the reader's expectations. It should make clear what is or is not addressed in the concept. It should clearly identify the timeframe of the concept and delineate its relationship to other concepts.
- **Assumptions**  
The assumption section should discuss the conditions upon which the concept is dependant and how these conditions might limit the concept.
- **Challenges, Opportunities, Desired End State**  
The concept may address a problem that requires a solution or an opportunity that may provide a maritime advantage. The desired end state should be described in detail, including the conditions that should exist when the concept objectives are achieved.
- **Background (optional)**  
If used, this section should include a brief summary of the historical developments that are essential to understanding the context of the concept.
- **Central Idea, Supporting Ideas**  
The central idea should state how this concept will accomplish the desired end state. The supporting ideas enhance end state accomplishment.
- **Capabilities (Ways and Means)**  
This should describe the capabilities necessary to meet the challenge or take advantage of the opportunity. This section should discuss how the capabilities (means) will be applied to achieve the desired end state. Capabilities can include platforms, weapon systems, sensors, organizational changes, training, etc.
- **Potential Solutions**  
This is a crucial part of the concept. Potential solutions (what provides the required capabilities) should be detailed. The proposed solutions are not validated until the Concept Development Phase.

- **Risks and Mitigation**  
This section should discuss the operational, technical, organizational, or other risks associated with implementing the concept. It should include options for mitigating the risks.
- **Considerations**  
This should describe implications associated with implementing the concept. It should consider the secondary effects this concept may have and how it might affect other concepts.
- **Summary (optional)**  
A concise statement that brings the readers back to what is most important to remember.
- **Appendices**  
Include detailed information that supports the concept, but may detract from the readability of the concept if included in the main body. Appendices may include the references, list of acronyms, glossary, vignettes, other reference material that is too large to footnote and is not readily available to the reader.
  - **References:** This section should cite the information resources used for the concept. It can also provide sources of information for readers who desire additional information.
  - **Vignettes:** These are short scenario-based descriptions of the employment of the primary capabilities presented in the concept. They should be 1-2 pages in length. An example is presented in appendix F.

Concept Development Action Plan. The Concept Development Action Plan (CDAP) is a separate document that lists the actions and the organizations responsible for the actions necessary to validate the concept proposed solutions and deliver the capabilities to the Fleet (appendix D). The CDAP should be staffed with stakeholders in advance for their awareness and to ensure it is executable. It will be presented concurrently with the concept to CNO for approval.

When the concept and action plan are approved, the concept then enters the Concept Development Phase.

### **Concept Development Phase**

During the Concept Development Phase, the CDAP is executed. OPNAV N00X will enter the actions into the OPNAV tasking / tracking system which requires periodic status reports by the action organizations. The CT will also maintain regular contact with the action organization to track the actions and assist in modifying the actions as required to ensure effectiveness and efficiency is maintained throughout the Concept Development Phase.

The actions listed in the CDAP may require workshops, seminars, analytic studies, wargames, limited objective experiments, Fleet experiments, and / or prototypes. Results of these events should be provided to the CT for review. As concept development progresses, the concept may require refinement, particularly as solutions are proven valid or not valid. Additional enabling concepts, concepts of operations (CONOPS) and / or tactics, techniques, and procedures (TTPs) may result from this concept development process.

### **Implementation Phase**

CNO approved concepts and their solution sets will be passed as appropriate to:

- OPNAV – For entry into the Joint Capabilities Integration and Development System (JCIDS) / Planning, Programming, Budgeting, and Execution (PPBE) processes, as appropriate
- OPNAV – For directing DOTMLPF changes included in the approved concept
- USFF – For tasking Fleet CONOPS development to the appropriate operational agent or platform agent
- NWDC – For doctrine development and promulgation

NWDC and OPNAV N00X will track and report to CNO the status of implementation actions on a quarterly basis.

The major roles for the key participants engaged in concept generation and concept development are shown in Figure 7.

<b>Concept Generation Concept Development Roles</b>									
<b>Responsible Organizations</b>									
	<i>Concept Submitters</i>	<i>NWDC</i>	<i>OPNAV N00X</i>	<i>Concept Lead</i>	<i>ICoC</i>	<i>4-Star Review</i>	<i>Stakeholders</i>	<i>USFFC</i>	<i>CPF</i>
<b>Harvest Concept Candidates</b>	x	x			x				
<b>Produce Point Paper and Quad Chart</b>	x	x			x				
<b>Full Concept Paper and Development</b>	x	x	x	x			x		
<b>Development Process</b> (Validate Solution Set)		x	x	x		x	x	x	x
<b>Implementation Plan</b>		x	x	x		x	x	x	x

**Figure 7. Concept Generation Concept Development Roles**

## Writing Navy Concepts

### Key Considerations and Fundamental Principles

The following thoughts are provided for consideration prior to starting any CGCD effort.

- The purpose of generating and developing a concept must be clearly understood to solve a problem or avail an opportunity. The solution should generate strategic or operational advantage.
- Concepts are proactive rather than reactive and help to identify and get out ahead of current or potential future problems.
- Concepts provide aim points, enable systematic and analytical resource decisions based on a holistic view, and help focus the weight of effort to produce the required capabilities.
- Success demands continual attention with a multi-faceted approach and necessitates frequently asking the questions, “What changed?” and “What needs to be done because of the change?” to ensure continued relevance and advantage.
- Game-changing solutions require collaboration across a number of areas and cannot be “stove-piped.”
- There is no “one source” for concept generation. The next good idea can come from anyone at anytime, but continuous efforts to create an innovation culture across Navy will encourage the generation of ideas.
- Concept generation is hard work and requires conceptual, long-range thinkers who are honest brokers with freedom to innovate outside of “group think” or community / organization / institutional pressures.
- Concept development requires a focused and well thought out action plan and detailed accountability with regular status and tracking reports to senior leadership.
- Concepts work is by nature evolutionary, it takes time, and it is not turned on and off with a switch. Only rarely does a concept create immediate or radical disruptive change.
- Concept processes are non-linear. They may work in sequence, parallel, independently, and/or in coordination with other capability processes.

“The greatest difficulty in the world is not for people to accept new ideas but to make them forget old ideas.”

- Tom Peters, Author

- Concepts are often controversial because they tend to violate “business as usual.”
- A concept-driven culture requires creativity, discipline, and endurance.

### **Concept Attributes**

Review your work after it is “finished.” Ensure the document to be submitted has the following attributes:

#### Serves the Stated Purpose

The concept document should provide meaningful guidance that can support the intended objective of the concept. It should be forceful, cogent, and clear.

#### Stated in Language That Can Be Acted Upon

A concept should be written as a hypothesis rather than an assertion. It should set up criteria for testing its feasibility through experimentation. The objective is to be able to conduct an unbiased examination of the merits of the concept, not to gain its approval regardless of its merits. *Guide for Understanding and Implementing Defense Experimentation (GUIDEx)*

“A person with a new idea is a crank until the idea succeeds.”

**- Mark Twain**

*Experimentation (GUIDEx)* is an excellent reference for use in concept development.

#### Accepts the Burden of Proof

A new concept warrants no assumption of validity, but recognizes that it will be met with skepticism and must make its case. A good concept is written in language that is open to criticism.

#### Differentiated

A good operating concept should be clearly differentiated from other concepts. The central idea and the application of military functions are the primary way a concept can differentiate itself. It may also differentiate itself by comparison and contrast with other concepts.

#### Explicit Relationships to Other Concepts

A future operating concept should establish its relationships with other Navy and joint concepts in the same conceptual areas.

#### Robust

A good operating concept should apply to a variety of possible futures and scenarios. It should not be limited to a specific condition.

#### Promotes Meaningful Debate

Concepts that provide clear concise descriptions that are readily understood allow interested parties to get to issues of substance rather than haggling over meaning. An even-handed concept with a strong intellectual foundation, a clearly differentiated view

of future Fleet operations, and a concise and precise description of essential elements will likely naturally promote debate.

#### Clarity

Ideas must be expressed clearly. Is there a better way to word an idea? Should more details be provided? Should an example be given?

#### Accuracy

The concept should be free of errors and distortions. What evidence supports the concept? Can the information be validated?

#### Precision

Ideas must be accurate and exact. Should more details be provided? Should the focus be narrower?

#### Relevance

The data and information provided must relate closely to the subject. Is the relationship between the concept idea and the problem clear? Does the concept help solve the problem?

#### Depth

The complexities of the subject under investigation must be clearly delineated. What are the complexities? Does understanding these complexities further understanding of the concept?

#### Breadth

All points of view affecting this problem must be considered.

#### Significance

A concept is significant if it has importance. Is this the most important problem to consider? Is this the central issue?

#### Logic

Ideas in the concept must be related and support each other.

### **Writing Specifics**

Concepts should be written in simple, straightforward language. Sentences should be succinct. Existing terminology should be used and catch phrases should be avoided. As is standard, define terms when first used.

Visuals. Concepts should be visually appealing, with graphics and text boxes that add to the readability and understanding of the concept.

Text Font. Times New Roman 12 pt is recommended for readability.

Acronyms. An acronym must be defined the first time it is used and all acronyms should be entered in the acronym appendix. Don't define an acronym if it will only be used once.

Call-out phrases. Call-out phrases should be strategically placed throughout the document to highlight key points. Lifted from the text, these 6-8 word phrases should capture the key take-away from that page or relate an historic example to the text. These can be centered or placed in either margin.

Footnotes. Footnotes should be used when information is needed to substantiate or clarify the text, but disrupts the flow for the reader.

Bold text. Bold text should be used sparingly, generally not more than once on a page. It should be used for emphasis, not for formatting. Bold the titles of main sections. Secondary or sub-section titles should be underlined but not bolded.

Italics. Limit the use of italics to the proper names of other documents.

Periods. After the period ending a sentence add one space before starting the next sentence.

Lists. Use bulletized lists, use numbering only when required to show an important order or priority.

## **Appendix A – Example: White Paper for Proposed Concept**

When an innovative idea has been researched and considered worthy of submission by the originator, a concept white paper is written in a broad manner to introduce the military problem and key ideas. Concept white papers are submitted to NWDC for collating and determining if sufficient information has been provided. If additional information is needed, NWDC will work with the originator and other SMEs, as required. The concept paper should be five to eight pages in length. Here is example for consideration using a fictitious concept white paper.

### **A Concept for Naval Distributed Operations Concept White Paper**

#### **1. Purpose**

The purpose of this paper is to motivate and inform experimentation for potential methods and required capabilities for future distributed naval operations. In that sense, this concept should be considered relatively immature: it constitutes a hypothesis to be tested rather than knowledge that enjoys any level of validation.

#### **2. Scope**

This paper describes the conduct of distributed operations within the framework established by the *Capstone Concept for Joint Operations* (CCJO v3.0, 2009). The operating concept described here applies within the context of the CCJO's central thesis of the adaptive combination of combat, security, engagement, and relief and reconstruction activities. The common operating precepts described in the CCJO also apply. The Naval Distributed Operations Concept augments those ideas with a more specific idea for solving the operational problem described below.

This is a warfighting concept: it applies to naval forces engaged in joint warfare as opposed to other, non-conflict security challenges, such as disaster response, cooperative security or deterrence. It applies to joint operations characterized by the employment of maritime surface forces within the littoral area. It does not apply, for example, to joint operations consisting solely of air and land operations.

This concept is not suggested as a panacea that will allow a joint force to minimize force levels in all situations; it is proposed as a potential solution to specific types of warfighting challenges, particularly in dealing with irregular or hybrid forces that do not adopt large, conventional force structures and tend to avoid a static battle.

Although naval distributed operations apply specifically to warfare, many of the implications of this concept, such as the requirements for decentralized command and control or small-unit proficiency, could apply equally to other situations not involving warfare.

### **3. The Military Problem**

This concept addresses the problem of how to defeat an elusive hybrid enemy operating in contested or uncontrolled littorals while generally avoiding larger forces and static combat.

Many future enemies will refuse to engage U.S. Armed Forces or their partners in pitched battle, instead dispersing into small, difficult-to-track forces and relying on guerrilla warfare and terror tactics. Many future enemies will disperse, operating in small units to decrease their vulnerability to U.S. material superiority. These enemies are likely to be a hybrid of irregular and regular forces, not providing an easily distinguishable military signature and instead tending to blend in with routine civilian maritime activity while still possessing some advanced military capabilities. While operating primarily in small groups, they will have the ability to mass quickly to gain local superiority over a vulnerable enemy force.

Future battlespace is unlikely to be characterized by a continuous front, with each belligerent controlling a secure rear area. Instead, the battlespace likely will include significant contested or uncontrolled areas. These may be coastal areas characterized by highly trafficked commercial waterways with busy ports adjacent to densely populated and porous urban areas which make it all but impossible to isolate the area. Conversely, they may be sparse occupied expanses, such as open ocean areas through which it is again nearly impossible to shut down movement.

While small and often irregular, these adversaries likely will have access to lethal weapons, even a limited number of weapons of mass destruction, although probably lacking advanced delivery systems, so that any concentration of U.S. forces presents a vulnerable and potentially lucrative target.

In summary, how does a joint force defeat an enemy that is hard to detect, is elusive and difficult to fix once detected, is hard to separate from commercial maritime activities, possesses freedom of action within an expansive area, and often enjoys at least the passive support of the population?

### **4. Central Idea**

Naval forces could defeat the enemy described above by dispersing throughout the operational area in a network of highly capable units operating autonomously in designated operating areas, linked to a supporting network of sensors, supported by responsive, nonorganic assets, and aggregating quickly and fluidly to concentrate against lucrative enemy targets.

The idea behind dispersing is to provide wide coverage of and responsiveness to the entire operational area. In accomplishing assigned tasks, the distributed units will rely on some combination of organic capabilities and nonorganic capabilities provided by the joint force. The most obvious example of nonorganic support, in the context of combat, is

air or surface fires. Other examples include sustainment, medical evacuation, and extraction, as well as reachback capabilities such as intelligence and planning support or cultural and other subject-matter expertise.

Distributed units will perform some combination of at least combat, probably security, and possible engagement or relief and reconstruction activities. At least some of the distributed maritime units at the heart of the concept necessarily will be involved in combat to defeat armed adversaries. Some of these units, especially in the case of warfare among civil populations, likely will also be involved in security activities to control and protect populations, resources and territories—friendly, neutral or hostile. Some units may be involved in relief and reconstruction activities to reconstitute civil functioning or in engagement activities, such as foreign internal defense or security forces assistance, to improve the military capabilities of partners.

The distributed units will be supported by the full range of capabilities resident in the joint force—for example, unmanned aerial systems, logistics provided from the seabase or host nation, intelligence support, and aerial and surface fires provided by other Services.

Some units will be positional—that is, they will accomplish the mission primarily from relatively static positions. Positional units assigned a combat mission often will occupy concealed positions; whereas positional units assigned a security mission usually will need to maintain a visible presence.

Since a completely static deployment will tend to cede the initiative to the enemy, some units will accomplish the mission through movement designed to keep pressure on the enemy and force the enemy to move, thereby exposing himself to detection by the moving unit itself or by one of the positional units. Even positional units require sufficient mobility to participate in swarming attacks or to break contact if attacked by a superior enemy force.

## **5. Supporting Ideas**

The supporting ideas elaborate on the central idea of the concept by discussing in greater detail the performance of various functions.

- **Maneuver.** Distributed units maneuver independently within their tactical areas of responsibility, using whatever maneuver techniques are appropriate to the type of warfare they are engaged in. When lucrative targets appear that are larger than can be defeated by a single distributed unit, multiple units close on the target from multiple directions, aggregating into larger forces.
- **Intelligence and Battlespace Awareness.** A network of sensors and sources of various types will augment distributed units, including human intelligence sources which might be managed by the distributed units themselves. Sensors will be deployed, by a variety of delivery means including emplacement by the distributed units, to cover gaps

in the coverage of these units, as well as to provide those units early warning of hostile action.

- Fires. Distributed units will rely on a combination of organic firepower and supporting joint fires, both air and surface. One of the critical decisions in developing capabilities for and conducting naval distributed operations will be determining how much firepower a distributed unit requires organically and how much will be provided as support. Reliability and responsiveness are critical issues here.

- Logistics. Meeting the challenge of how logistically to support numerous, widely distributed units in the field will be critical to successful naval distributed operations. From a logistical perspective, distributed operations are inherently inefficient. A key principle will be minimizing the need for logistical support by making distributed units as streamlined and self-contained as possible.

Several options exist for logistical support. The first is self-contained supplies in the distributed units. A second option is for return of the units to the seabase for resupply. A third option is the use of logistical trains from the sea. A fourth option is for logistics support from the host nation. In practice, any logistical plan in support of distributed operations likely will involve some combination of methods.

Medical support is a special issue. Because distributed units may be far from medical treatment facilities, and because of the importance of treating casualties within the first “golden” hour, distributed units will require additional organic lifesaving capabilities.

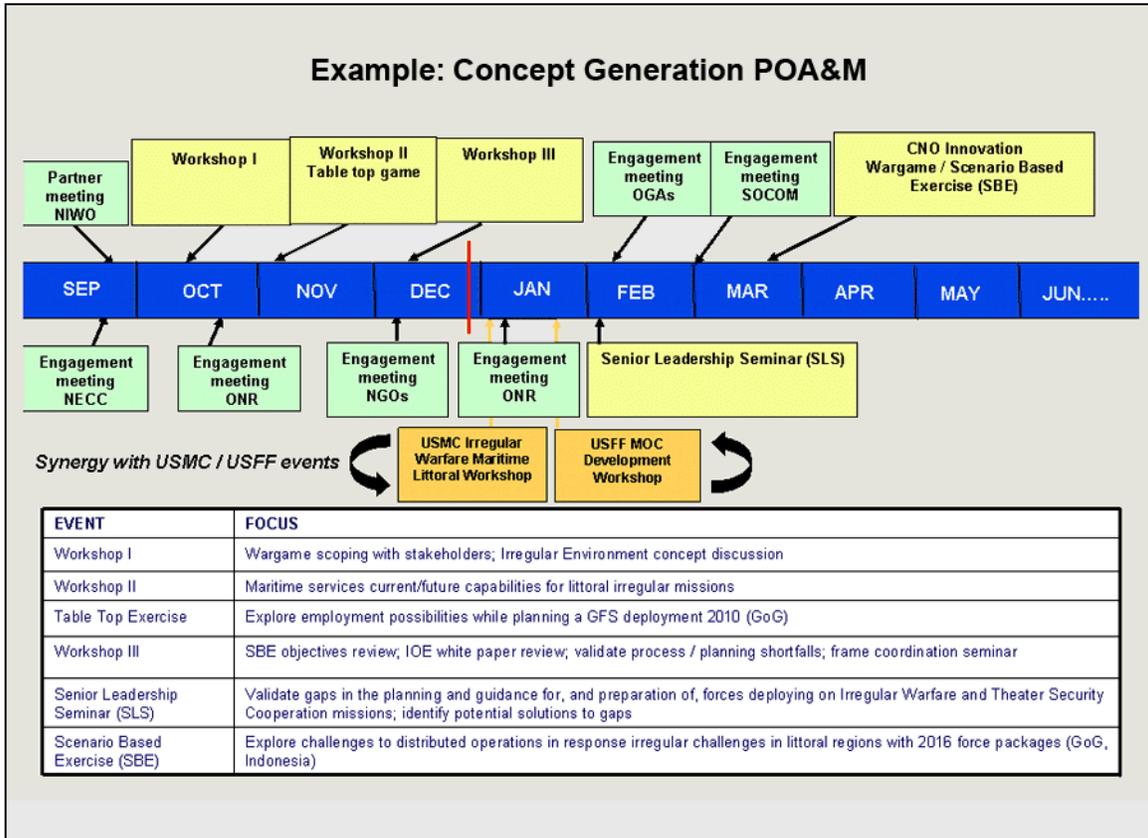
- Force Protection. Force protection for distributed units is another key issue. No single solution exists for force protection, which instead likely will be a product of several factors. When the situation permits these units can gain protection from concealment. The sensor network that is an element of this concept can provide early warning of potential danger. Any distributed unit can gain protection from mobility if that mobility is sufficient to allow the unit to disengage and escape from danger. The unit may be equipped with protective weapons systems, but this often is gained at the expense of mobility, so there is a tradeoff to be reconciled.

- Command and Control. Effective command and control will be essential to successful distributed naval operations, which will require mission command, a style of command and control promoting decentralization, freedom and speed of action, and subordinate initiative—all of which will be required to defeat elusive adversaries. Distributed units will operate autonomously within their assigned operating areas, but within the context of a common purpose or intent provided by higher authority. Within the broad guidance provided by their superiors, commanders of distributed units will decide how best to accomplish their missions.

## 6. Potential Stakeholders

Combatant Commanders, Navy Component Commanders (NCCs), Surface Warfare Development Group (SWDG), OPNAV N2 / N6, OPNAV N3 / N5 IW, NWDC, BUMED, Military Sealift Command (MSC)

## 7. Initial Concept Generation POA&M



\*Note: Submit the proposed concept to [Navy\\_Concepts@navy.mil](mailto:Navy_Concepts@navy.mil) or [Navy\\_Concepts@navy.smil.mil](mailto:Navy_Concepts@navy.smil.mil).

## Appendix B – Proposed Concept Point Paper Template

18 Jan 11  
LCDR Joe Bagodonuts  
757-XXX-XXXX

### Topic: Proposed Concept Title

#### 1. Introduction:

The [proposed concept title] is a concept submitted for consideration by [LCDR Joe Bagodonuts, [title, command]]. Write two or three short paragraphs describing the proposed concept including the problem it will solve and the opportunity it provides.

#### 2. Background (Optional):

This section should consist of several paragraphs providing some background on the proposed concept. Some suggested areas of interest may include:

- What commands support the proposal
- Has it been previously identified as a warfighting gap
- Previous solutions to the problem that can be enhanced or did not work
- Previous exercises/experiments conducted with relevance to the proposed concept

#### 3. Discussion:

Write a paragraph presenting the main idea followed by the key assumptions and constraints used in developing the idea.

#### 4. Research:

Does the proposed concept support other Navy and joint concepts? How relevant is it to guiding directives.

Benefits to the Concept:

- 
- 

Challenges to the Concept:

- 
- 

#### 5. Way Ahead:

Rough milestones and proposed timeline for concept generation.

\*Note: Electronic copy of this template and the quad chart can be found on the NWDC Portal: <https://www.nwdc.navy.mil/Navy%20Concepts/Forms>

**Appendix C – Proposed Concept Quad Chart Template**

**Title of the Proposed Concept**

<b><u>Proposed Concept</u></b>	<b><u>Discussion</u></b>
Submitted By: Challenge: Opportunity:	Description of main idea Relationship to other Relevant Concepts Benefits: • • Challenges: • •
<b><u>Background</u></b>	<b><u>Way Ahead</u></b>
Brief Background Discussion: <ul style="list-style-type: none"><li>•What commands support the proposal</li><li>•Has it been previously identified as a warfighter gap</li><li>•Previous solutions to the problem that can be enhanced or did not work</li><li>•Previous exercises/experiments conducted with Relevance to the proposed concept</li></ul>	Rough milestones and proposed timeline for concept generation

## **Appendix D – Concept Development Action Plan Considerations**

Each fully developed concept paper must have a Concept Development Action Plan (CDAP). This plan should clearly lay out what needs to be done and include plan of action and milestones to develop and validate the concept. Key actions, identification of the lead and supporting organizations, the time period to accomplish actions, and the desired output of the actions should be included. The format below has been used in the past and is provided for consideration by concept drafters.

### **Concept Description**

Describe what the concept is designed to achieve, a defined end state which creates an operational advantage. State what the new capabilities envisioned by the concept will include, and when the ultimate objective of this concept is expected to be achieved in full and what can be done in the interim. In the meantime, state a set of actions the Navy can pursue, in series and parallel, to achieve incremental enhancements across all aspects of DOTMLPF. These actions will drive solutions that can be used to attain the greatest benefit as quickly as possible, while working in the longer term to build the full spectrum of capability described in the concept.

The CDAP will encompass, but may not be limited to the following areas:

**Prioritization and Key Actions:** Identify and prioritize key actions across DOTMLPF which drive concept development. The actions will be tailored such that each lead organization will have the proper authority to implement and execute required tasks. Consider highest payoff efforts across near, mid and far term. Prioritize and design efforts based upon CNO direction for focus areas.

**Concept Development Action Plan:** Develop a plan to mature and validate the concept and its solutions.

- Define required stakeholder group and update the Concept Team membership
- Develop wargame, study requirements, POA&M, and events plan
- Integrate study results / recommendations into plan
- Integrate experimentation and at-sea demonstration plans into campaign as appropriate
- Plan validation workshops with appropriate Navy leadership, staff, and SME's.
- Develop plan to collect and analyze overall findings
- Develop plan to deliver key findings, lessons, DOTMLPF recommendations, and adjust concept and / or solution set, as required
- Define resources required to execute the near term plan

Action: Develop concept campaign plan

Lead: Concept lead supported by NWDC and stakeholder group

Time: XX months

Output: Recommended plan and timelines for delivering validation findings and solution implementation recommendations for senior Navy leadership

**Paragraphs for each appropriate DOTMLPF category and major action needed for concept development:**

Summary paragraph followed by specific actions

Notional Examples:

**Doctrine:** The Maritime Strategy has increase emphasis on working in cooperation with other services and other appropriate elements of government to engage with partner nations to prevent war. Navy doctrine needs to be modified to increase emphasis on littoral cooperative presence and engagement.

Specifically:

(a) Broaden definition of security force assistance to include working in partnership with multiple U.S. government security agencies

(b) Define new mission areas to support cooperative presence and engagement based on new capabilities contained in the XXX concept

Action: Review existing doctrine and update ...

Lead: XXX

Time: XX months

Output:

1. Recommend changes to current doctrine based on existing capabilities addressed in the XXX concept

2. Provide concept development and experimentation / wargaming input based upon doctrinal gaps or inconsistencies

3. Estimate time to complete changes given concept approval

**Training and Education:** Dedicated training is needed at key career points for officers and senior enlisted personnel to understand the ISR expanded mission area, such as interoperability with other services, government agencies, and partner nation forces, and with information sharing regulations. Formal cultural training is needed for personnel assigned to regions where the mission will be performed.

Specifically:

- (a) Identify the new areas of training required to support this mission
- (b) Identify sources of cultural training for the likely areas where this mission is to be performed.

Action: Review existing education and training portfolio for gaps and areas to update and integrate with Navy and joint instructions.

Lead: XXX

Time: XX months

Output:

1. Recommend changes to current training continuum based on existing capabilities addressed in the XXX concept
2. Provide concept development and experimentation / wargaming input based upon doctrinal gaps or inconsistencies
3. Estimate time to complete changes given concept approval

**Summary:** NWDC will conduct In-Progress Reviews (IPRs) at prescribed intervals with lead organizations for each specific line of action and submit a progress report to CNO / VCNO covering the focus areas to include any recommended changes to plan execution as DOTMLPF implications become clear and campaign lessons are developed. NWDC will review, update and resubmit this plan periodically (every 6 months estimated) based on inputs from IPR, CNO / VCNO guidance and progress towards actions above.

## Appendix E - Sample Vignette

Vignettes are brief scenarios that describe the intended employment of the capabilities provided by a concept in a realistic operational context. Vignettes can be an effective method to portray the operational value of these capabilities. Fictitious country names are normally used to avoid any sensitivity to the use of actual country names and their capabilities.

### Humanitarian Assistance and Disaster Relief Operation

The relative calm in the region is broken by the devastation wrought by a Category IV typhoon that did significant damage to two of a regional partner's three ports. The storm surge hit with tremendous force and flooded a major city, leaving hundreds dead and thousands homeless in its wake. The local government has lost most of its communications channels with the countryside and has asked for international and U.S. assistance.

The U.S. ambassador immediately set a humanitarian assistance/disaster relief (HADR) operation in motion. Several days earlier, when the need for an HADR operation became probable, the regional Geographic Combatant Commander established a Joint Task Force (JTF). The maritime component commander ordered Littoral Combat Ship (LCS) and Joint High Speed Vessel (JHSV) ships, with a forward command element, near the potential damage zone. An amphibious ready group was loaded with relief supplies and sailed as the situation developed but is six days from the impacted area. Additional Navy Expeditionary Combat Command (NECC) forces are also being deployed via air to the airport near the undamaged port.

With several LCS, JHSV, and a growing number of NECC units arriving in the region, the forward command element of the JTF organizes these forces into groups, with one LCS that has built relationships during engagement missions with regional partners over the last several months and one newly arrived LCS. The JHSV focuses on moving the most critical aid supplies into the region. One group is assigned to work with NECC to move disaster relief material from the undamaged port to the damaged ports and coastal areas. The



shallow draft and high speed of LCS and JHSV and their adaptable configuration enable these forces to rapidly establish a naval expeditionary logistics capability in the undamaged port with support from other joint forces to rapidly get disaster relief material to coastal cities and towns. A JHSV brings on-load / off-load equipment required by

naval logistics personnel to get the cargo ashore. LCS are configured to support command, control, and communications of U.S. and multinational force operations, with an expeditionary network capability that provides wide-area broadcast of emergency information, and acts as a temporary IP-based network provider of local communications to support disaster relief and help locate survivors. This ship-delivered capability is supported by airborne / mobile routers and includes personal access devices that are delivered to first responders / relief workers.

LCS helicopters and unmanned vehicles are employed to survey the damaged areas, providing vital situational awareness of the operational environment. The LCS configured with the Anti-Surface (SUW) module provides the capability to defeat potential criminals in small boats who are attempting to loot aid or abandoned property. They can also provide harbor security together with command, control, and communications.

The other LCS group is moved to the major city hit by the storm, together with a JHSV that carries critical medical and water purification supplies from the coast to the primary population areas affected in and around the capital. The shallow draft of LCS and JHSV allows access to the intra-coastal waterways and lakes, despite the damage to the shipping channels by the storm surge. LCS provide ISR and communications support to assist the partner government to coordinate the actions of its first responders while other LCS and riverine units provide port and river security.

JHSV continue high-speed runs from a major U.S. ally's ports near the region to on-load lifesaving supplies and NGO disaster relief personnel providing critical, early support to stricken citizens in the devastated area. NECC and riverine forces are deployed to the area to provide transport of critically injured survivors and conduct engineering assessments of damaged buildings and infrastructure.

Meanwhile, NECC forces assist relief efforts on the ground. The Maritime Expeditionary Security Force provides security in the harbor area and for ships as they enter port. Riverine forces patrol the river for additional security and ISR. The Seabees assist in reconstruction efforts, and the Maritime Civil Affairs Group prioritizes and coordinates efforts with the military, local government, and other non-government organizations.

## Appendix F – Glossary of Terms

**Concept of Operations** - A verbal or graphic statement that clearly and concisely expresses what the Joint Force Commander intends to accomplish and how it will be done using available resources. The concept is designed to give an overall picture of the operation. Also called Commander's Concept or CONOPS. (JP 1-02)

**Fleet Warfighting CONOPS** - A written document specifying how the Fleet will employ current capabilities, and or capabilities that will reach IOC within the FYDP, to effectively and efficiently perform the missions assigned by the Combatant Commander (CCDR) to Naval forces. The primary audience for Warfighting CONOPS is those who plan and execute the missions.<sup>6</sup>

**Fleet Platform Wholeness CONOPS** - A written document specifying how the Fleet will man, train, equip for, and maintain new capabilities that will reach IOC within the FYDP. It informs Programs of Record (POR) of the Fleet's intent and needs. The primary audience for the Fleet Platform Wholeness CONOPS is platform Type Commander (TYCOM) and supporting organizations.<sup>7</sup>

**Concept of Operations (acquisition)** - Include a description of capability employment, sustainment, basing, training, and manning to support life-cycle cost estimates.<sup>8</sup>

**Operational Level of War** - The level of war at which campaigns and major operations are planned, conducted, and sustained to achieve strategic objectives within theaters or other operational areas. Activities at this level link tactics and strategy by establishing operational objectives needed to achieve the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. See also strategic level of war; tactical level of war. (JP 1-02)

**Strategic Concept** - The course of action accepted as the result of the estimate of the strategic situation. It is a statement of what is to be done in broad terms, sufficiently flexible to permit its use in framing the military, diplomatic, economic, informational, and other measures which stem from it. (JP 1-02)

**Strategic Level of War** - The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, and develops and uses national resources to achieve these objectives. Activities at this level establish national and multinational military

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<sup>6</sup> Fleet Concept of Operations (CONOPS) Development. COMUSFLTFORCOMINST 5401.1A N8 10 Mar 09

<sup>7</sup> Fleet Concept of Operations (CONOPS) Development. COMUSFLTFORCOMINST 5401.1A N8 10 Mar 09

<sup>8</sup> Department of the Navy (DON) Requirements and Acquisition Process Improvements. SECNAV Notice 5000 of February 26, 2008

objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of national power; develop global plans or theater war plans to achieve those objectives; and provide military forces and other capabilities in accordance with strategic plans. See also operational level of war; tactical level of war. (JP 1-02)

**Tactical Concept** - A statement, in broad outline, which provides a common basis for future development of tactical doctrine. (JP 1-02)

**Tactical Level of War** - The level of war at which battles and engagements are planned and executed to achieve military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. See also operational level of war; strategic level of war. (JP 3-0)

## Appendix G - Acronyms

BUMED	Navy Bureau of Medicine and Surgery
CCJO	Capstone Concept for Joint Operations
CDAP	Concept Development Action Plan
CGCD	Concept Generation and Concept Development
CNO	Chief of Naval Operations
CNWDC	Commander, Navy Warfare Development Command
CONOPS	Concept of Operations
CSIP	Concept Solution Implementation Plan
CT	Concept Team
DoD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
EA	Executive Agent
GCC	Geographic Combatant Commander
ICoC	Innovation Council of Captains
IPR	In-Progress Review
JCD&E	Joint Concept Development and Experimentation
JCIDS	Joint Capabilities Development and Integration System
JHSV	Joint High Speed Vessel
JTF	Joint Task Force
LCS	Littoral Combat Ship
MSC	Military Sealift Command
N00X	Director, Naval Warfare Integration
NCC	Navy Component Commander
NECC	Navy Expeditionary Combat Command
NOC	Naval Operations Concept
NSG	Navy Strategic Guidance
NSP	Navy Strategic Plan
NSPP	Navy Strategic Planning Process
NWDC	Navy Warfare Development Command
OPR	Office of Primary Responsibility
PPBE	Planning, Programming, Budgeting, and Execution
SBE	Scenario Based Exercise
SECNAV	Secretary of the Navy
SUW	Anti-Surface Warfare
SWDG	Surface Warfare Development Group
TTPs	Tactics, Techniques, and Procedures
USFFC	U.S. Fleet Forces Command
VCNO	Vice Chief of Naval Operations

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