

**LET US  
LEAD TOWARD  
ABILITY TO  
FIGHT**

For the strength of the ship is the service,  
And the strength of the service, the ship.  
*- Hopwood: The Laws of the Navy*

By Dr. Daniel S. Appleton  
[DSA@1940.usna.com](mailto:DSA@1940.usna.com)

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3014 Fox Mill Road  
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22124

## Introduction

Although the technical sophistication of U.S. Naval ships and weapons has advanced markedly since World War II, parallel actions to provide for the physical, mental, and emotional states of the crews manning those warships have not kept pace. People continue today, as they always will, to be the critical elements in the man-machine interface and integral to the successful operation and combat effectiveness of a warship at sea. When they are overworked, overstressed, or tasked beyond reasonable limits, they -- just as their machines -- will mentally lose their edge, weaken, and fail to perform as required.

Yet little has been done to upgrade the people-aspects of our fleets comparably with advances in equipment technology. One needs only to consider the emotional, mental, psychological, and physical strains a radar system operator endures during a routine steaming watch to envision the impacts such an operator experiences from extended duty-station demands in a highly stressed combat situation where the unknown and uncertain are the norms.

Such a comparison will likely cause a discerning critic to appreciate the need for paralleling “machinery” technology with comparable advances in personal support of the life-style and accommodation of our all important “machinery” maintainers and operators.

The following comments are submitted as potential contributions to the operational and combat effectiveness of the present and future United States Fleet.

The United States Navy has over recent years allowed critical aspects of shipboard battle training, organization, administration, and protection of U.S. warship crews to deteriorate to the extent that units of our Fleet can no longer expect to prevail in event of violent confrontations with hostile armed forces.

Studies of the human tragedies resulting from the post-WWII disasters involving USS TRIPOLI, SAMUEL B. ROBERTS, PUEBLO, LIBERTY, STARK, BELKNAP, VINCENNES, IOWA, and COLE failed to reach or express conclusions about how members of these crews might have been saved by more substantial human and management resources. Recent major deficiencies (e.g. CHOSIN, DOWNS, collisions, groundings) in the fighting abilities of U.S Naval surface forces have been discussed in public media..

Professional media sponsored by the Office of the Chief of Naval Operations (eg "Surface Warfare" magazine) have not addressed measures for strengthening of fighting abilities by the crews of naval warships. Current discussions of "readiness" focus on aspects of propulsion, weapons, electronics, damage control, and "quality of life", not on aspects of the safety and proficiency of people under stress. Discussions about "human fighting ability" are officially avoided out of concerns regarding adverse impacts upon recruiting. The US Naval War College officially avoids studies or formal discussions concerning the roles of "people" in the naval environment.

The average time available to any US warship for battle training during normal operations today is 30 minutes per week. Means do not exist for shipboard leaders to plan or know what groups or teams are to train, for what purposes, or with what results.

Human fighting weaknesses are being exacerbated as crew sizes are reduced or limited for purposes of economy.

If something is not done to upgrade the Navy's archaic mandatory standards governing confused shipboard responsibilities, meaningless battle training methods, lack of protection of crewmembers, and overwhelming administrative overloads, all imposed upon warship crews by off-ship authorities without analysis of how they combine to impact combat effectiveness, then the ability of our Surface Forces to prevail in combat will remain in serious doubt.



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## Part 1: Challenges

Although the technical sophistication of U.S. naval ships and weapons has advanced markedly since World War II, in future Naval combat environments *people* still comprise not only the most critical but also the most vulnerable resource in every naval ship. When the crew of a warship is weakened or placed at risk, so will be their ship and potentially their nation.

Navy people in American warships will be confronted by two converging challenges.

The first challenge already stems from the shrinking size of the U.S. Fleet, which will continue to result in more ships being called upon to deploy to combat areas prior to completion of preparatory training. The extensive variety of missions for which today's warship crews must nevertheless be kept ready to execute includes projection of firepower, protection of fast sealift ships, amphibious assault, deep support of expeditionary forces, protection of battle groups, interdiction of prohibited or unlawful shipping, salvage and rescue, battle damage repair, theater ballistic missile defense, and armed confrontation by hostile surface, air, and subsurface forces, not to mention the ceaseless demands of efficiency and survivability. Individual units may be called upon to execute combinations of such missions, each requiring special skills.

The second growing challenge will come from unprecedented demands upon physical strength, stamina, endurance, and mental toughness. Extraordinary demands upon human performance will henceforth apply to the crews of all types of navy ships,

including support units now conventionally labeled as “auxiliaries” rather than “combatants.” Future challenges will deserve objective analyses of impacts upon combat effectiveness as crew sizes are “optimized” to reduce numbers for budgetary reasons and as shipboard organizations, procedures, customs, and structures are redesigned to accommodate mixed genders.

Growing threats to physical and mental stamina are coming from hostile weaponry proliferating worldwide in both quantity and sophistication. Today’s anti-ship weapons include high performance cruise missiles capable of launching from land bases, land vehicles, aircraft, submarines, or commercial ships or fishing craft; ballistic missiles capable of targeting units whose movements are constrained or predictable (such as during replenishment operations, amphibious assaults, flight operations, and passages within straits, canals, channels, and ports); nuclear, biological, and chemical munitions; bottom and rising mines in limitless numbers; and high-speed and wake-following torpedoes (against which the U.S. Navy has almost no defense). Potentially devastating weapons are capable of being launched against ships from unidentifiable points of origin spread across thousands of square miles ashore or at sea, a level of threat exceeding any ever faced by naval forces.

The littoral battle space will impose unaccustomed combinations of the foregoing threats. Individual ship or total force organic radar sensors may be degraded by land mass clutter rendering surface and short range air search radar systems ineffective because of the “grass” that land radar returns generate. Low flying aircraft of all sorts may be able to penetrate under radar cover by remaining in the “grass”, i.e. below the radar horizon. Sonar systems of all natures are less effective in shallow, variable temperature gradient waters and noisy coastal waters than in the

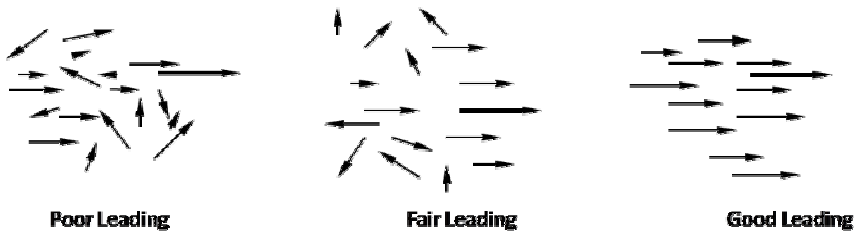
open ocean, providing air-independent submarines and small submersibles increased opportunities to close and defeat surface ships no matter how well prepared. Being close-in off shore permits a land adversary to "surround" a ship or force making defense requirements spherical rather than within a narrower sector. Ships close-in are within mobile or fixed shore batteries and surface missile ranges. Multiple small indigenous craft of all sorts, sizes, and configurations operating in off-shore waters may magnify the threat since each is a potential launch platform as well as a human intelligence base. "Swarm" attacks by high-speed torpedo launching small craft on rapidly crossing bearings have been shown difficult to oppose. Finally, littoral waters can be sewn with hundreds of inexpensive homemade mines that are difficult to detect and counter. In sum, the prospective littoral sea space allows less maneuvering room, general advantage to the enemy and overall disadvantage to surface warships.



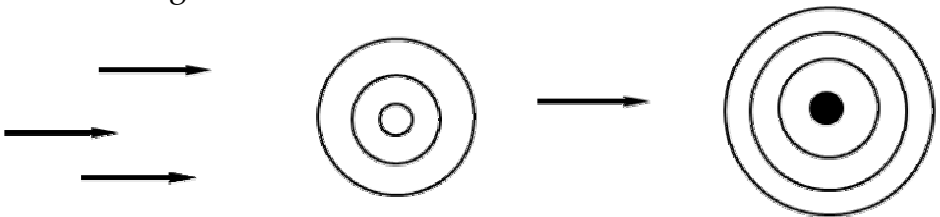
## Part 2: Aiming Toward Fighting Abilities

*(The following discussion has previously been distributed by the U.S. Naval Doctrine Command.)*

Let me explain the central words of this title. To lead will mean to get people's energies pointed in the same direction:



To lead toward will imply that there exists in the minds of the leaders not only a sense of direction but a set of intermediate and ultimate targets to be achieved:



Ability to fight will mean ability to prevail against a powerful and determined enemy who comes at you at sea or in port in daylight or at night when you least expect it, who strikes you in your weakest parts, hurts you terribly, drags out the hurting beyond your endurance, and attempts finally to destroy everything important to you.

I shall take the premise from here on that achieving and maintaining expert ability to fight and win is the true and

ultimate reason for the existence of the U. S. Navy. Today our Navy is pressing hard toward a substantial number of intermediate people-oriented objectives: increasing compensation and benefits, improving shipboard and family quality of life, reducing drug abuse, and ameliorating social conflict. Most of these objectives are aimed in turn toward improving maintenance and operation of complex modern equipments.

All of these targets lie indisputably along the path toward the ability to fight. Nevertheless they remain, all of them, no more than a means to that end. When they become ends in themselves, two serious consequences can result:

- The Navy may stop almost short of achieving the one objective that truly justifies its existence. Getting to the fight with everything working falls short of being able to conduct and sustain violent warfare.
- By fostering diverse personal goals that have little to do with the organizational objectives of the Service -- goals such as current job security, training for post-service careers, travel and adventure -- the Navy may be failing to create the sense of common purpose that is both the mark and the strongest resource of great leadership.

We are starting to see tangible symptoms -- danger signals -- suggesting that both of these "serious consequences" are beginning to occur. Such signals are coming from three sources wherein vitality is indispensable to effective management and leadership within naval ships:

1. The standard shipboard organization has grown twisted and awkward;
2. The Navy's systems for "measuring readiness" are proving useless for describing changes in ability to fight;
3. The general shipboard environment for living, working, and training is steadily losing its sense of purpose.

Let me cite some specifics. Consider first the standard organization prescribed for naval ships. Every authoritative or reputable source dealing with shipboard management once stated that ships' companies are to be organized in Divisions and that the primary basis for assignments to Divisions should be the duties which personnel perform in battle. Beyond these written assertions, any semblance of existence of chains of responsibility or authority based on assignments to battle stations has been withering away. In a typical modern warship, between 35 and 50 percent of the crew will be found assigned to battle stations or high-threat watch stations not under the cognizance of officers or petty officers of their own Divisions.

According to recent regulations, the principal organizational unit below the Division level has been officially designated as the Work Center, which is to function under a formally assigned Supervisor. The "primary unit of a ship's company for purposes of liberty, watch standing, messing, and berthing" is to be the Section with commensurate responsibilities held by each crewmember's Section Leader. No guidance has been offered as to how a sailor shall know his Section Leader if his ship operates in several types of Condition Watches, each with a different

number of Sections, as is the case in every ship of the Navy.

On the other hand, leaders of groups which must fight together or endure violence together -- such as repair parties, ammunition handlers, or ship control teams -- no longer have anything routinely to say about individual performance evaluations, special requests, or recommendations for reenlistment, unless they also happen to be Work Center Supervisors. They may even have little or no responsibility for planning or conducting team training.

As a matter of organizational fact, there is today no official ship-board entity with a generic name like "Combat Team" or "Watch Team," nor is there an official generic leadership title, with commensurate built-in responsibilities, like "Combat Team leader." Nor, of course, does the existing standard organization describe a complete and continuing chain of primary responsibility, on and off station, for improving ability to fight.

In sum, it has gradually come about that the standard primary organization of American naval ships is based upon groups of people who work together, rather than upon groups of people who will fight together.

Turn now to evaluation, an esoteric term for the process of determining whether an organization is getting better or worse at being able to do the things it is supposed to be able to do. Nothing could be more important to the Navy's capacity for determining and justifying needs for resources, analyzing the effectiveness of programs or doctrines, making strategic or tactical decisions, or controlling a ship in battle than the ability to make timely and reliable appraisals of changes in ability to fight.

The Navy's Service-wide tool for describing the results of evaluations was once its standard readiness reporting system, Status of Readiness and Training System (SORTS). Despite its heavy operating costs, SORTS was declared useless by the Congress and the U. S. General Accounting Office for purposes of determining resource requirements. Furthermore, the system was not used, and may therefore be presumed useless, for any purposes of operational decision making. Since it described "readiness" primarily in terms of levels of a few selected resources, SORTS information served only to suggest in broad terms what a unit could not do. It failed completely to answer, "Yes, but what can you do?" (*This system has been supplanted by the Defense Readiness Reporting System (DRRS), which also appears designed to help justify budget requirements.*)

The critical aspect of readiness evaluation that seems to have been almost totally neglected by our Navy's leadership is the need to be able to describe and communicate continuing changes in combat capabilities not just up to commanders but down to sailors. People being asked to commit themselves and their loved ones to "improving combat effectiveness" deserve sensible descriptions of what they are being asked to become good at. And they deserve continuing information describing what progress they have achieved. Goals to shoot for and feedback on results are indispensable to motivation and steady improvement. Without them, skilled people will continue to be motivated more to leave than to achieve, and combat training will continue to be more convulsive—which it is—than progressive, which it could be. Yet U. S. naval ships today, despite their technical sophistication, still lack any effective language for describing, any reliable technique for measuring, or any useful equipment for displaying, continuing changes in ability to fight.

Let me turn now to a number of environmental aspects that critically affect the sense of purpose of the people in our surface warships. Start with recognition that a warship cannot be run indefinitely as if it were in a never-ending high-threat set of circumstances. We saw in the attack on Pearl Harbor that prolonged condition watches can be self-defeating. And it is almost a truism that many programs aimed at making life more comfortable aboard ship can be inherently detrimental to combat effectiveness.

American seamen and women will usually endure hardships cheerfully, indeed pridefully, if they understand why. On the other hand, they can also be expected to react adversely, even contemptuously, toward measures which seem either without purpose or, worse, counter to the ostensible reasons for the demands placed upon them.

Let's assume that I am a junior officer or mid-rank petty officer assigned to an amphibious assault ship. I have a young wife and two small children. My ship has been in its homeport eight days in the last two months, and we are scheduled for an eight-month deployment a few weeks from now. I can do what's being asked of me willingly and well. But I'm not sure if I—that is, we—will decide to stick with it very much longer. For one thing, there are too many things going on, many involving heavy personal demands, that don't seem to make sense. I go to my superiors to get some answers, and I come away with more questions.

With a small family's many problems and emotional needs, it's not easy to spend nights aboard ship in port. But I sometimes wonder what an in-port duty section is really supposed to be able to do. If quick response, precise action, and teamwork are so important in an emergency in these times, perhaps some sort of

terrorist attack, why are so many people kept aboard without explicit assignments? And when they change practically every day, who's supposed to train them?

Soon we shall deploy to the Western Pacific or the Indian Ocean for what looks from here like an eternity. What for? Will the Navy help me explain to my shipmates and my family how this deployment will help our country, who the "enemy" might be, exactly what we need to be ready for? I recall that even when this Nation went to war in Vietnam, there seemed to be few explanations of why we were there. I also hear a lot about hard-to-stop missiles that can be fired from submerged submarines and home in on stationary (like amphibious) ships from 250 miles away.

But questions like the foregoing don't bother me as much as some deeper questions about things the Navy does, or doesn't do, that seem actually to reduce our ability to fight. For example:

Why don't our people have clothing systematically designed to protect them against flash burns and head injuries in battle? Every station in my ship seems to have a different idea about "battle dress," and every version looks ridiculous. Aren't we supposed to be "warriors"?

Why did our underway refresher training come in two separate parts, one for ship defense, another for assault operations? Don't we need to learn what to do if the ship is attacked and hit during the assault?

How in the world will we operate aircraft from our flight deck if we receive a chemical attack? Or even

decontaminate the aircraft afterwards?

Somebody told me the crew's foam mattresses would give off toxic fumes if they started to burn. This I find incredible. Is it true?

Why hasn't anyone ever designed decently protected stations for visual lookouts?

What will we do if one of our nuclear powered ships is hit by a wake-following torpedo and starts to leak radiation like a floating Three Mile Island?

The paperwork load is awful now. What will it be like a week after the war starts?

And so on.

The trouble is, probably, that there aren't many people in the business of designing ships who know, or think, very much about the violence of combat.

The three types of conditions discussed above having to do with organization, evaluation, and "purposefulness" have a couple of important attributes in common: they reflect a growing obsolescence of shipboard management systems that is becoming seriously detrimental to combat effectiveness, and their improvement has become a far greater task than can be solved simply by greater "command attention" on the part of commanders afloat. Corrective actions, if there are to be any, will have to come from the top leadership of the Navy. And that may be part of the problem. For there exists today no specific staff official or agency with overall responsibility for strengthening

management systems in naval ships with a view toward optimizing performance under conditions of severe stress and/or extreme violence, meaning combat.

Let me now address what can be done.

**To upgrade the standard organization:**

It will be enormously important not to continue unquestioning acceptance of the premise that shipboard chains of responsibility are in fact today, or should be, as they were fifty years ago: for instance, that the term Division Officer really connotes responsibility for training battle station or watch station operators, or that "Section Leader" denotes a person to whom a sailor should always look first for personal guidance.

Over these years, many responsibilities have been modified, shared, increased, or decreased. New technical ratings and specialty classifications have been created, along with new departmental technical assistants and subdivisional work units. Hundreds of collateral duties have been added at both officer and senior enlisted levels, seemingly without thought about reasonable limits. Administrative loads have increased by orders of magnitude. There have been drastic changes simply in human expectations. The point has been reached where most ships tend to use three fairly distinct chains of responsibility: one for personal affairs and welfare, a second for administration and maintenance, a third for operations and combat training. The organizational question which has become most critical to the building of ability to fight is now, "What responsibilities should be borne by personnel assigned as on-station combat leaders when they and their people are off-station?"

There are two extraordinarily powerful sets of concepts which can be brought to bear upon problems of shipboard organization:

1. The concepts of teams, teamwork, and team-building. This focus has two special strengths: the power of teamwork to compensate for turnover, and the power of team cohesiveness to offset fear in battle.

2. The concept of sense of responsibility, whereby operational personnel may be properly charged with monitoring material conditions and the fitness of personnel for battle regardless of their formal command authority.

The very first action the Navy should take toward strengthening the ability of modern warships to fight is to formally designate shipboard Combat Teams and Watch Teams as distinct elements of the standard organization, making sure that every person in every ship is assigned to a specific team. At the same time, formally designate Combat Team and Watch Team Leaders and allocate to them carefully selected responsibilities, or shares of responsibility, for the fitness and training of their team members, for the readiness of their material, and for the training of personnel who man their stations on watch. In short, give combat leaders finite responsibilities for leadership.

### *To modernize techniques for evaluation of combat capabilities:*

The greatest potential value of a practical system for measuring changes in ability to fight will lie in that system's power to help leaders strengthen motivation and make combat training steadily progressive.

Nearly thirty years ago, the Navy instituted the concept of "Required Operational Capabilities," (ROCs) which it thereafter sought to inject into functions like readiness reporting and computation of personnel allowances. The concept of establishing stable and referable bodies of "required" or designed capabilities<sup>1</sup> for organizational units has impressive potential value. Specifically, it can provide a much needed vehicle for selecting immediate goals, keeping track of qualifications, spot-checking claimed achievements, making plans for longer range training, and taking advantage of unexpected opportunities.

If spot checking could be based on samples randomly selected from stable universes of "designed capabilities," two additional advantages might be brought within reach: (1) requirements for operational exercises and formal inspections might be substantially reduced, and (2) it could become possible to compute the reliability (consistency over time) and validity (conformance with respected standards) of all formal evaluations. It could thus become feasible to set aside pointless arguments over "subjective" versus "objective" opinions and to depend primarily on the professional judgment of commanders afloat, rather than on measured quantities of a few selected resources, as the central basis for appraising the readiness of the fleet. Battle efficiency competitions could be both reduced in scope and improved in credibility by basing them entirely on a few periodic operational readiness evaluations of capabilities selected at random on each occasion.

The greatest practical problem to be overcome in establishing "stable and referable bodies of designed capabilities" has been

said to reside in the work of collecting and documenting existing performance criteria. Yet insofar as this task has become difficult so much the greater is its importance. Much of this work has in effect already been done by Afloat Training Commands and fleet assistance teams, and much of the rest could be done by specially designated task teams in order to minimize administrative burdens upon ships. In any warship, the task of documenting designed capabilities can be accomplished in one day.

By no means will such efforts be wasted when "objective criteria" simply cannot be found. What is needed is firm identification of exactly what capabilities are to be judged, together with standard scales for expressing and comparing professional appraisals.

Assuming that "combat teams" shall have been established as formal entities within the standard organizations of ships, the following actions would begin to realize the benefits of advanced techniques for evaluating combat capabilities, most especially the benefit of making evaluations of fighting abilities visible to sailors:

1. Identify the designed capabilities (DESCAPS) of every shipboard Combat and Watch Team, which is to say those functions which each commanding officer would expect each of his teams to be able to perform expertly if fully manned, properly equipped, and fully trained (in effect, a team-level "Personnel Qualification Standards" (PQS) system).
2. Decide upon a Navy-wide standard grading scale to express the results of every evaluative exercise, inspection, or command appraisal in terms of existing levels of capabilities. Get rid of adjectives

like "good" and "satisfactory," which have nothing to do with victory in battle.

3. Design and install simple visual displays to assist in keeping the complete shipboard chain of command, starting with sailors on Combat Teams, informed of current team training goals and qualifications.

4. Begin to develop and test standard sampling procedures, including procedures for computing reliability and validity.

And observe that finally, marvelous to behold, it would become possible to tie responsibilities, praise, and rewards to improvements in ability to fight.

***To make the shipboard environment purposive:***

I shall say that a "purposive environment," one in which "purpose" identifies with ability to fight, implies a climate in which the naval seaman understands what ability to fight means, senses instinctively why it is important, takes pride when it improves, feels concern when it diminishes, and has confidence that all hands will perform effectively even under conditions of stress and violence. This would be an environment in which the sailor feels like a warrior, first and foremost.

Some of the actions the Navy could take to lend this kind of strength to the shipboard environment are the following:

First, in the fleet schools and in the ships, explain the threats to the American way of life, and in this context, the Navy's

missions. Describe precisely the nature of potential enemy objectives and capabilities in every area where each of our units is operating, including areas which used to be called "rear" or "home" but which today may be well within reach of modern weapons, especially in littoral environments where every ship is a potential "combatant." Emphasize that the Navy's missions extend beyond simply protection of the sea-lanes, and keep in mind that failure to explain the consequences of a potential enemy victory was probably American leadership's most horrendous failure in the instance of the Vietnam war.

Second, teach the meaning of ability to fight. Naval seamen need to be able to comprehend in advance, as best they can, the massive human stresses that can accompany the imminence and onslaught of shipboard combat, including the effects on minds and bodies of fear, fatigue, isolation, and suspense, and of violence entailing overwhelming noise, shock, rending of structure, burning, suffocating, and dismemberment. Under such conditions, the warship is at the same time very tough but very vulnerable, the latter because its makeup includes hundreds of Achilles heels, each highly sensitive to human frailties.

Third, design and provide a fully adequate set of shipboard combat uniforms to be worn under high-threat conditions when decided by each Commanding Officer. Our Navy could hardly conceive a single action that is more urgently needed, and which would be at the same time more inspirational, than this.

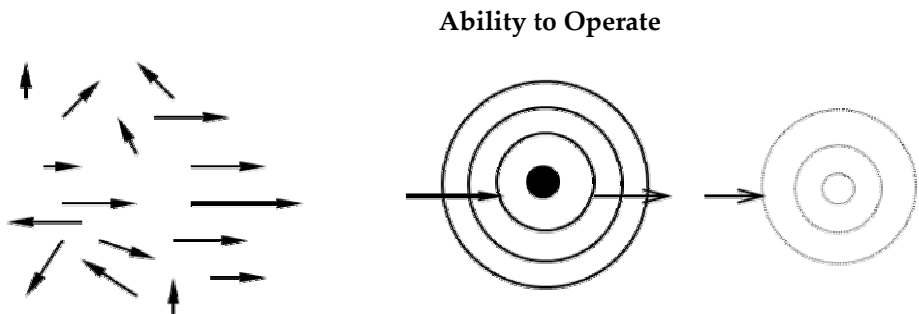
Fourth, inject purpose into customary daily routines. For example, periodically hold Captain's personnel inspections of combat teams in combat uniforms. Let combat team leaders attend formal hull and material inspections. Transit into and out

of port in high conditions of readiness as special opportunities for battle drills. Assemble and instruct the day's in-port emergency teams for investigating and controlling damage, communications, internal and perimeter security, power generation, and overall control, before the end of regular working hours. In every possible way (such as publication of rosters listing primary duties), let the ship's combat control officers and team leaders know that they are the real VIPs on board.

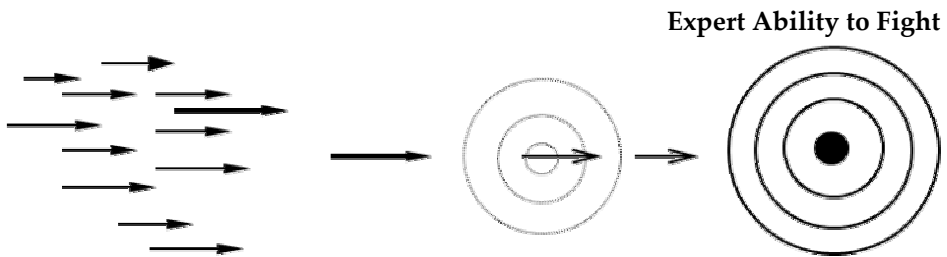
Fifth, explain, as thoughtfully and thoroughly as possible, events and procedures that seem inconsistent with combat effectiveness.

The bottom lines of this discussion are the following:

Setting the Navy's main target short of ability to fight runs two grave risks: the risk of aiming people's energies in diverse directions, and the risk of falling short of the Service's principal reason for existence:



Setting the main target as ability to fight offers dramatic possibilities for creating a unified sense of purpose among Navy people and for achieving the true goals of the Service:



But there is reason for concern. Our Navy has been leading toward ability to operate, not ability to fight, for nearly fifty years. It may be that shifting the main target now will appear too difficult to try. If the Service is that far from being able to orient its leadership toward ability to fight, think about what that implies in terms of America's ability to deal with violence on or across the seas.

## Part 3: Strengtheners

The following measures could reinforce the expertise and endurance of the people who will operate the warships of the United States Fleets under conditions of sustained stress or intensive combat:

1. As a foundation for motivation, set the “master” fleet leadership goal as achievement and maintenance of Expert Fighting Ability, this to mean “ability to perform expertly under conditions of stress, violence, or attempted surprise.”
2. Provide warship crewmembers with protective uniforms resistant to flame and shock and displaying rank and rating insignia. (Earlier recommended by Fleet Commanders-in-Chief but recently set aside in favor of new service, working, exercise, and maternity garments.)
3. Provide means to make protective headgear quickly available under urgent or surprise conditions.
4. Provide shipboard bedding that does not emit toxic fumes when burning.
5. Ensure use of flame resistant paints on interior surfaces.
6. Develop and test doctrines for transition of a warship crew from condition watch stations to battle stations after receiving extensive casualties.
7. Provide means to move laden stretchers vertically through every new ship.
8. Design passageways with minimal obstacles in order to facilitate movement of casualties.
9. Provide quick-release devices to enable rapid securing of loose furnishings and other potential missile hazards under high threat conditions.

10. Provide freshwater near manned stations for emergency treatment of burns.
11. Provide emergency toileting facilities near manned stations for long periods without relief.
12. In ships' organizations and personnel rosters, designate battle functions, rather than maintenance and administrative functions, as "primary" duties.
13. Revise the specified responsibilities of command master chiefs to eliminate overlaps with the roles of ships' officers and to define their responsibilities for leadership toward expert combat effectiveness.
14. Analyze the cumulative shipboard impacts of administrative requirements imposed by uncoordinated external commanders upon the opportunities remaining for on-board battle training and maintenance. (Average battle training time available in most ships during scheduled operations is 30 minutes per week.)
15. Equip all suitable compartments to enable quick access to materials needed for emergency wound care.
16. Provide displays to make Objective Based Training performance criteria, progress, and goals continuously visible to all hands.
17. Address hypothetical combat situations within official leadership instruction programs. (Currently avoided because of presumed impacts upon recruiting.)
18. Do not eliminate visual lookouts. On the contrary, redesign and equip these critical assets with advanced resources for human protection, recognition, and communication in all potential ocean environments (including CBR) and weather conditions. Consider establishing special designators for expert qualifications.
19. Modernize the standard shipboard organizations to provide for cohesive Combat Teams and to clarify

readiness responsibilities of “Departments” and “Divisions.”

20. Develop and test doctrines to enable a crew to shift efficiently from working and watch stations to emergency stations after receiving catastrophic damage and extensive casualties at sea or in port.
21. Focus responsibility within Navy Department headquarters for designing and eliminating conflicts among mandated shipboard management systems that limit warship fighting abilities today including confusing shipboard organizations, conflicting on-board chains of authority, and huge administrative overloads. No such centralized responsibility or knowledge base exists today.
22. To break with historical practice, paint ships’ names permanently on their bows. At sea, in every port, or in the news, Navy people need to know and show where they come from.

The most evident symbol of today’s Navy’s minimal concern for the protection of U.S. Sailors in violence is lack of provision of shipboard combat uniforms, including means for their stowage, care, and quick availability, no matter the cost. (Start with the LCS.)



## Part 4: Annotated Discussions

Titles herein are listed under the following headings:

Potential Conflicts  
Service Leadership  
Combat Effectiveness  
Battle Training  
Crew Protection  
Ship <Management

Listed documents can be downloaded from [Dacom.com/fighting-ability/](http://Dacom.com/fighting-ability/)

NIP signifies U. S. Naval Institute Proceedings

### Potential Conflicts

#### [A09 The Ultimate Battle.doc](#)

*Description of two fictional ships being specially prepared to maintain continuous presence off Taiwan per Presidential order. Protective uniforms, physical conditioning, no siblings in crews, bedding, burnables, wound care, burn first aid, ladders and passageways, aux battle dressing stations, digestive relief, ID tags, visual lookout equipment, battle training. Selected related references.*

#### [A05 Next Naval Battle.doc](#)

*Article by CAPT Appleton in NIP 1989. Our Navy lost in a fog of hardware. This nation's economy and security are menaced by the convergence of three factors: our critical dependence on ocean transport, the nearly defunct condition of our maritime industries, and the growth of anti-ship weaponry. Because of these conditions, any major coastal or maritime power could conceivably attempt to strangle this country by interrupting our ocean commerce—without initiating a great land war.*

#### [A02 We Are Not Invincible.doc](#)

*Article by LT Adams in NIP (Prizewinner) 1997. Littoral is potentially the bloodiest arena in which a modern navy has ever dared to fight, yet we continue to encourage the*

*public expectation of victory with few--if any--casualties. Ships are vulnerable to terrorism, dulling precision strikes, submarines, weapons of mass destruction.*

*(This Article serves as foundation for the website.)*

### [A33 Dragon's Side.doc](#)

*Article by LCDR Studeman in NIP July 2000. Taiwan and the offshore islands have long been areas of contention for China. For the U.S. sailors who may again be called to sail in the hazardous waters near the Taiwan Strait, understanding the historical context of the problem and the United States' role in the disputes may be invaluable*

### [A36 ENDGAME.doc](#)

*Article by CAPT Appleton in NIP April 1985 (prizewinner). A few months ago, a major symposium was convened at the Naval Science University of America to examine factors affecting the U. S. Navy's ability to fight. The following is an account of the second session of the symposium. Potential enemy strategic objectives; decrepit condition of US merchant marine and shipbuilding industries; potential enemy objective of US ocean commerce; need for US Naval "elite force."*

### [A39 TerrorismAtSea.doc](#)

*Article by CDR Kubiak in NIP 2003. Explosives can be brought on board with freight; attacks with explosives openly boarded; firing at ships in port; attacks by explosive-laden vessels; attacks by armed divers; attacks using mines. (With chronology of recent events.)*

### [A41 Small Boat Threat.doc](#)

*Article by LT Farmer in NIP Jan 2004. ILLUSTRATION: The Navy no longer can afford to ignore what once were innocuous boats, such as this dhow in the Persian Gulf. Today, any vessel at sea could be a threat.*

### [A43 Up Close and Personal.doc](#)

*Article by LCDR Strother in NIP Jan 2004. Potential needs for universal IFF and better chemical detection techniques.*

### [B57 Prep for Littoral Warfare.doc](#)

*Factors affecting human fighting ability in littoral warfare. Dangers to shipboard people; awkwardness of standard organization; absence of human protection; dangers of eliminating visual lookouts; weaknesses of battle training; lack of visibility of objectives; absence of leadership toward goal of Expert Ability to Fight. (Extensive list of published sources.)*

### [B85 War in South China Seas.doc](#)

*Analysis by RADM (Ret) F.C. Johnson USN 2005. Vulnerabilities of US Fleet: stretched lines of support compared to enemy; powerful enemy sub-launched weapons; weak US ASW capability; flight-deck crews readily exhausted; and un-readiness during scheduled meals and watch-relief times; vulnerability to illness in ships; lack of protective uniforms; anticipated Chinese use of time-delaying and deceptive tactics.*

### [C05 USS Liberty Story.doc](#)

*Article by Kolb in VFW Mag June-July 2007. Extensive damage and human casualties from assault at sea by Israeli Navy.*

### [C11 War with Iran.doc](#)

*War with Iran would be Navy, Air Force show. (Army Times 22 Feb 2007.)*

## Service Leadership

### [A00 BackingUpTheSeaWarrior.doc](#)

*Measures needed to strengthen shipboard human protection, shipboard organization, and battle training.*

### [A04 No Time to Rest.doc](#)

*Article by CDR Roncolato in NIP 1996. Peacetime is not downtime. Beware of peacetime naval culture. Navy's growing peacetime culture, zero defect mentality, careerism, excessive focus on administration, increasing technical specialization, neglect of history and military theory.*

### [A03 Bravery Not Enough.doc](#)

*Article by CAPT Appleton in NIP June 1998. Human impacts of shrinking size of the Fleet and resulting extraordinary demands on physical and mental stamina; new importance of condition watches; new importance of combat uniforms; awkward standard organization; making training goals visible.*

### [A01 Research Narrative.doc](#)

*25 page bound volume by CAPT Appleton avail on paper (no cost). "Toward a Modern Warship Management System—Beginning Research." 60-year research narrative with listing of selected sources.*

### [A29 Expert Man o'Warsman.doc](#)

*Elements of superior individual combat readiness: descriptions of elements of Knowledge, Performance, Endurance, Preparedness. Issued to the Fleet by Commander Cruiser*

Destroyer Force, US Pacific Fleet

[\*\*A30 Arleigh Burke.doc\*\*](#)

*From Admiral Burke: importance of ability to communicate ideas.*

[\*\*A31 Study Of Innovation.doc\*\*](#)

*Article by Elting Morison in CalTech Eng and Science Mag April 1950. Classic study of Navy resistance to change based on concept of "identification."*

[\*\*B93 Future Idrs.doc\*\*](#)

*In battle, modern hardware systems depend ultimately on human protection, crew organization, and on-board training. (New LCS ships incorporate none of these resources.)*

[\*\*A38 Navy's FiveCancers.doc\*\*](#)

*Standard primary shipboard chains of responsibility focus on work duties rather than battle readiness; lack of visible training objectives; overwhelming administrative demands; lack of human protection; ineffective drill planning; all exacerbated by unanalyzed cost-related and politically oriented pressures to minimize sizes and to mix genders of warship crews regardless of potential impacts on fighting ability.*

[\*\*A42 LtrToCNOonFtgAbils.doc\*\*](#)

*To CNO ADM Clark 6/04: effects of loss of Naval Service goal of Expert Ability to Fight.*

[\*\*A44 NavyInTroubleII.doc\*\*](#)

*Recommendations: That Navy Dept officially define and cite Expert Ability to Fight as a primary Service goal, and that a senior department official be assigned responsibility for analyzing relationships among factors affecting this goal.*

[\*\*B56 Bush Letter 7 Feb 02.doc\*\*](#)

*Asking help to enable US warship crews to cope with the violence of battle.*

[\*\*B80 Annotated Bibliography.doc\*\*](#)

*Listing of over 100 documents related to strengthening of warship fighting ability.*

[\*\*B91 Ltr to SECNAV Aug 06.doc\*\*](#)

*Please examine potential value of coordinating design of human protection, crew organization, and battle training.*

[\*\*B94 Letter to CNO Mullen 2 Feb 06.doc\*\*](#)

*Please consider providing means to make Objective Based Performance criteria clearly*

*readily available to all hands on board every ship.*

**[B97 Letter to SECNAV Winter Aug 06.doc](#)**

*Please consider fixing individual responsibility for coordinated design of shipboard resources for human protection, standard crew organization, and on-board battle training.*

**[B98 Ltr to CNO Mullen Apr 06.doc](#)**

*Explicit recommendations for strengthening human protection, clarifying standard shipboard organization, and reducing shipboard administrative workloads.*

**[B99 Letter to Pres Bush Mar 06.doc](#)**

*US Fleet has become seriously unprepared for near-shore warfare.*

**[C04 Letter to ASN Etter 15 August 2007.doc](#)**

*Please take these "Five Interacting Cancers" into account in designing the LCS.*

**[C09 Research Report.doc](#)**

*Record of an examination of management tools to assist U. S. Navy shipboard leaders under extreme conditions. Incentive stems from concern over how many people have unnecessarily lost their lives in recent years during combat and in LIBERTY, BELKNAP, PUEBLO, STARK, IOWA, COLE, and due to VINCENNES.*

**[C16 Surface Flag Officer Ltr.doc](#)**

*Neglect of proven shipkeeping practices responsible for "unfit for combat" INSURV findings of USS Chosin and USS Stout. Similar problems likely throughout surface Fleet.*

**[C17 Letter to SecNav 3 June 08.doc](#)**

*Letter from AsstSecnav advises "fighting ability" should not be cited as Service goal because potentially detrimental to recruiting. Believe no Navy agency is responsible for analyzing total load on shipboard crews. Please consider impacts of substituting female for male crewmembers upon both combat effectiveness and personal family morale.*

**[C20 Ltr for Help from Congress.doc](#)**

*To the Congressional Armed Services Committees: please consider holding inquiries to examine if the Congress could assist the Navy in strengthening the combat effectiveness of the Naval surface forces.*

## Combat Effectiveness

### [B90 Fighting Ability in American Warships.doc](#)

14 constraints on human fighting abilities in US warships, 14 footnoted references.

### [C03 Fighting Ability Cancers.doc](#)

Primary standard shipboard chain of responsibility focuses on work duties rather than battle readiness; lack of visible training objectives; overwhelming administrative demands; lack of human protection; ineffective drill planning—all exacerbated by unanalyzed readiness consequences of minimizing crew sizes to save money.

### [A22 Measuring Fighting Ability.doc](#)

Background of efforts to describe and measure combat capabilities (referring to Duke Report and JCS C-rating System and to proposals for an integrated readiness measurement system (ICIS).

### [A16 31 Ways to Strengthen.doc](#)

Letter to CNO: Proposals for resources to help strengthen the fighting capabilities of warship crews. Establish a standard shipboard Battle Control Organization; establish continuing responsibility for updating Standard Organ and Regs of the Navy; reexamine suitability of Standard Ships organization for overall battle readiness; develop doctrine for shifting stations after casualties; protective uniforms; wound care for females; flame resistant bedding; securing heavy movable equipment; flame resistant bunk covers; moving stretchers vertically through a ship; potable water at battle stations; emergency toilet facilities; emergency battle dressing stations; protecting medical equipment; planning battle drills in advance; shipboard administrative workloads; equipment and doctrine for visual lookouts; standard emergency hand signals; ship names on bows; labels for bulkheads and decks; visibility of performance criteria; designating certain support ships as combatants.

### [A15 Navy In Trouble.doc](#)

Article from Stars and Stripes in 1988 after USS STARK disaster. Potential consequences for the Nation if Navy does not fix weaknesses in fighting abilities of Sailors in Navy ships.

### [A08 Lead Toward Ability to Fight.doc](#)

Article by CAPT Appleton published and distributed Navywide by Naval Doctrine Command. Ship Organization twisted and awkward; no definition of expert ability to fight; no way to measure progress toward ability to fight.

[A34 Surf Navy Not Ready.doc](#)

Article by CAPT Byron in NIP 1987. Surface ship readiness is the major issue facing the Navy today. (Many published responses from ships and counter responses from author.)

[A25 A Commanding Officer's Address.doc](#)

CO address to a destroyer ship's company on sustaining combat readiness during six-month deployment to Western Pacific.

[C07 Navy That Can Fight No Longer.doc](#)

No element of Navy command system bears responsibility for integrating human elements of warships so as to achieve maximum fighting ability.

[A27 Analysis of Operational Readiness.doc](#)

Address by CAPT Appleton to US Naval War College on analyzing relationships among capabilities, resources, and environments. Published in NWC Review June 1967 by request of NWC.

[B95 LCS READY OR NOT.doc](#)

Twelve questions to ask regarding fighting ability of newly designed Littoral Combat Ships, where crewmembers will be the most essential and yet the most vulnerable element of fighting ability.

[C13 Deterioration of Fighting Ability.doc](#)

Discussion by former Commander Training Command, US Pacific Fleet, concerning effects of discontinuation of proven shipkeeping practices.

[C10 Fighting Ability in American Warships Jan 08x.doc](#)

Discussion of potential consequences of Navy's neglect of resource requirements for combat effectiveness in light of emphasis on substitution of female crewmembers, reduction of crew sizes and of dominating concern for "quality of life". (Submitted with request for hearings by Congressional Armed Services Committees).

[C06 Putting the Fight Back.doc](#)

Article by CAPT Appleton in NIP June 07. Importance of defining combat readiness and of systemic design of shipboard resources for battle training, crew organization, and human protection.

[C28 What Is Happening to Our Fleet.doc](#)

Overview of conditions is existing ships that impair development of combat effectiveness: "optimization" of crewsizes, lack of leadership objectives, weakness of ship organization,

*substitution of crewmembers without analysis, lack of crew protection, living space vulnerability, unorganized battle training, administrative overloads, Fleet at lowest level of effectiveness since WWII.*

*“Declining Human Fighting Ability in the American Navy.”*

*“Fleet Flaws Exposed.” Navy Times {April 2008 and May 2009.} Damage control in USS COLE.*

## Battle Training

### [\*A19 Topping Off Battle Trng.doc\*](#)

*Many ships have had to deploy without completing refresher training. Discussion addresses setting clear chains of control, providing visual feedback of goals and progress, how to plan battle drills in advance. Introducing Command Training Assessment Cards for visual display of training criteria.*

### [\*A18 Emergency Handbook.doc\*](#)

*Notes for Warship Leaders Ordered into High Threat Waters Without Enough Time to Get Fully Ready for Fighting. (55 page booklet, avail in hard copy, no cost.)*

### [\*A14 Designing CTACs.doc\*](#)

*How to design Command Training Assessment Cards for Visual Display of battle training objectives.*

### [\*A28 Training in USS Stark.doc\*](#)

*Letter to UnderSecNav Garrett suggesting training methods that might have helped to save STARK.*

### [\*A37 Battle Trng by Teams.doc\*](#)

*Article by CAPT Appleton in NIP (prizewinner). Reprints requested by 93 ships. Basis for current fleetwide “Objective Based Training” system. Main premise that ship’s crews currently have no way of knowing what battle skills they are supposed to achieve.*

### [\*A40 DeployedBattleTrng.doc\*](#)

*Article by CAPT Appleton in NIP 1988. First of two-part series. Reprints requested by COs of 26 ships and commanders of 3 Surface Warfare Groups.*

### [\*A44.5 Using CTACs to Train for Ftg.doc\*](#)

*How to use Command Training Assessment Cards to provide visibility of training objectives in order to help in training all Condition Watches quickly for fighting.*

[A45 CTACs Dmg Ctl.doc](#)

[A54 CTACs HeloOps.doc](#)

[A66 CTACs Navigation.doc](#)

[A81 CTACs Seamanship.doc](#)

[B01 CTACs AntiAir.doc](#)

[B13 CTACs StrikeWF.doc](#)

[B22 CTACs Engineering.doc](#)

[B29 CTACs SurfaceWF.doc](#)

[B36 CTACs Antisub WF.doc](#)

[B42 CTACs AmphibWF.doc](#)

[B49 CTACs Crypto-com.doc](#)

*Prototype Command Training Assessment Cards based on Objective Based Training (OBT) criteria provided by Afloat Training Groups. Procedure tested in eight active fleet ships and revised accordingly.*

[B55 TrngForAdvOplDemands.doc](#)

*Letter to Commander US Pacific Fleet suggesting consideration of CTACs to help train quickly when needed, particularly in light of current efforts to reduce and “optimize” warship crews.*

[B59 CNO KELSO ON TRNG.doc](#)

*CNO’s personal message to Navy: “Cannot emphasize too strongly the concept of training as an all-hands evolution.” Sets forth guiding principles.*

[B66 CombatTrngEarnsAnE.doc](#)

*Article by ship CO LCDR WB Althoff in U.S. Naval Training Bulletin Winter 1959. Successful results of pursuing principles previously published by DSA: Define responsibilities, define objectives, emphasize one objective at a time, measure real progress.*

[C02 Team Qual System.doc](#)

*In the June 1984 issue of the Naval Institute Proceedings (page 24), it was reported that officers in ninety-five ships had requested prototype “Team Qualification System” (TQS) materials for trial in training hull damage control teams. By later correspondence, officers in thirty-six ships indicated that they would consider TQS displays useful for*

*"topping off" team training for one or more of the following types of combat and watch teams (in addition to Hull Damage Control) in case of sudden or imminent hostilities. (TQS later became CTACs as described above.)*

## Crew Protection

### [A21 When Alarm Cant Sound.doc](#)

*Article by CAPT(MC) Arthur Smith in NIP 1977. During Desert Storm, knowing how many are coming, when, and to where, can be life and death information.*

### [A20 Medical Battle Bills.doc](#)

*Article by LCDR Harry Alvis NIP 1943. Dispersing med equip and personnel, emergency first aid equip, knowing routes and accesses, qualifications of surgeons, adequacy of equipment.*

### [A12 Bleeding Stops Event'y.doc](#)

*Article by Capt (MC) Smith in NIP 2001. Confidence in leadership directly affects operational success in war, and one facet of command responsibility that has a forceful impact on this confidence is the establishment of an effective medical support system.*

### [A11 Blood on the Decks.doc](#)

*Article by Capt (MC) Smith in NIP 1986. Editor's preface: Trauma treatment is often a surgeon's race with death. The Navy must upgrade its capability for high-intensity trauma surgery now, in order to save its warriors in the future.*

### [A07 Crews Not Prepared.doc](#)

*US Sailors are not prepared by orgn or equip to cope with the violence of battle. Needs for resources to protect sailors against violence, train toward expert performance in violence, make readiness goals and progress visible, clarifying chains of responsibility.*

### [A26 Human Costs At Sea.doc](#)

*Article by Capt (MC) Smith in NWCR Sept 1992. The saving of lives in close support of combat can contribute significantly to a navy's effectiveness.*

### [A32 Combat Uniform.doc](#)

*Recommendation by both Fleet Surface Force Commanders and endorsed by both Fleet Commanders in Chief for adoption of protective uniforms for warship personnel in battle, including proposed designs. Ignored by Navy headquarters.*

[A35 USS IOWA tragedy.doc](#)

*Lessons of a tragedy. From Navy Times of 26 April 1999. What the deadly turret explosion aboard the USS IOWA warns us about today's navy.*

[B63 Mobile Surgical Suite.doc](#)

*Article by Capt MC D.C. Covey, CDR MC JL Habcock, CDR MC DD Plurad in NIP 2005. New approach to forward maritime surgery.*

[B68 Preventive Damage Control.doc](#)

*Discussion by RADM FC Johnson, Commander Training Command, Pacific Fleet. Comprehensive recommendations for strengthening shipboard damage control and human protection.*

[C18 Triangle of Death.pdf](#)

*Article by CAPT (MC) Smith in NWCR Spring 2008. Challenges of formulation and design of afloat casualty care capabilities.*

## **Ship Management**

[A24 Warship Battle Orgn.doc](#)

*Article by CAPT Appleton in NIP July 1986. How shift to GQ after being hit; structuring cohesive teams; establishing team goals; defining Battle Systems; defining Combat and Watch Teams; enhancing acceptance of revised structure; organizing for emergency in port; visual resources to help keep CO informed of readiness.*

[A23 Ships Readiness Imprt Plan.doc](#)

*Proposal to CNO resulted in 1962 in a one-year program in an active ship to implement and evaluate advanced concepts of management and training. Results included the Planned Maintenance System, the Personnel Qualification Standards System, and the structure of shipboard maintenance groups (later Work Centers).*

[C01 Ships Readiness Imp Plan II .doc](#)

*Principal conclusions of SRIP of significance to the Service. Physical display of maintenance information; no distinction between operational and technical maintenance, visual display of team qualifications achieved, clear display of responsibilities, defining the goal of performance-endurance-preparedness, adoption of term Combat Unit, adoption of term Support Group, concept of "operational concern", correlation of training objectives with ship readiness, adoption of training objectives plans, organization and training to cope with violence in port, system for distribution of reference information, value of prototype ship. (No agency in Navy has authority to*

*implement any of these.)*

### [A17 DD21's Fatal Flaw.doc](#)

*Article by CDR Fitzgerald in NIP 1999. New ships have too few Sailors to handle damage control*

### [A06 Dated Mgt Practices.doc](#)

*Article by CAPT Appleton in Navy Times Nov 6 1995. Five shipboard mgt systems have deteriorated for over 50 years: human protection, on-board battle training, ability to measure results, chains of responsibility for battle readiness, distortion of goals of leadership development.*

### [B61 CNO on Admin Workload.doc](#)

*CNO Ser 00 Memo 807-71 of 29 Nov. Ships **overwhelmed** with paperwork and inspections. Largely responsible for loss of PUEBLO. Junior Officers leaving in disgust. Paperwork taking precedence over needs of the crew.*

### [B67 TourOfKingsMountain.doc](#)

*Guided tour of fictional USS KINGS MOUNTAIN, in which innovative features of warship managements have been installed for evaluation.*

### [B81 SIX TOOLS FOR NEW SHIP LEADERS.doc](#)

*Tools that can be implemented in new ships even if impractical in existing ships: provide adequate human protection, strengthen organizational chains of responsibility, make training goals visible to all hands, coordinate administrative demands, establish Expert Ability to Fight as master leadership goal.*

### [B92 Bureaucracy Within.doc](#)

*Article by LT N. D. Luther in NIP 2006. Navy as a bureaucracy that occasionally fights in wars. Vicious cycle of bureaucracy involving a host of uncoordinated superior commands. The way forward.*

### *Suggested Reading:*

*“Lessons Not Learned” by Roger Thompson, US Naval Institute Press, 2007. A review of the U.S. Navy’s mistakes and failures since World War II. Central thesis: the USN has a learning disability that has resulted in numerous defeats in free play exercises against smaller navies.*

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# Author

Dr. Daniel S. Appleton's active and retired naval career has extended from 1940 to 2010. This has included service at sea in a battleship and two cruisers followed by command of a destroyer, an amphibious assault ship, a division of four destroyers, and a squadron of eight destroyers. Assignments involved seven wartime campaigns and fourteen overseas deployments. Duties were assigned on the staffs of three Naval Surface Force Commanders including Flag Secretary, Force Weapons Officer, and Asst Chief of Staff for Force Readiness. Individual initiatives have included original overall revision of the Navy's original Bureau of Ordnance Manual, creation of the Navy-wide Planned Maintenance System, and origination of the Navy-wide Personnel Qualification Standards System, the Objective Based Training System, the CNO Fleet Training and Readiness Division (today the OPNAV Surface Warfare Division), the Navy Readiness Analysis System, the Department of Defense Output Measurement System, design and conduct of a one-year active fleet developmental Ship's Readiness Improvement program, and invention of a standard stock inflatable surface target. Served as weekly briefing officer to the Secretary of the Navy on the readiness of the Fleet. Received MS and PhD degrees and three Service commendations during active duty and retirement for work related to strengthening naval readiness. Service during retirement has included research, professional collaboration, crew design direction for a new amphibious assault ship (LHA), and frequent command, staff, and ship visits. Many of the observations in the following discussion have been tested and evaluated on board ships during active duty and retirement. Relevant discussions can be found on the web at [www.dacom.com/fighting-ability/](http://www.dacom.com/fighting-ability/)