Surface Warfare

July/August 1999

No Better CLASSROOM

TRAINING AT SEA

No Better Classroom!

Over the last year, *Surface Warfare* has presented articles that framed our vision for the Surface Navy's future, described exciting, new technologies being incorporated into our ships and outlined new and evolving missions vital to our continued maritime dominance throughout the world. But these new and evolving missions will levy increased demands on the surface force. The key to success in meeting these demands remains in the hands of our most valuable asset—you, the Fleet Sailor.

This issue of *Surface Warfare* focuses exclusively on training, offering perspectives from the fleet, as well as addressing new initiatives designed to bring Surface Warfare training into the 21st century. In fact, many of the articles describe aspects of our new Surface Warfare Training Vision. This vision, the culmination of a yearlong effort, involved the development of a comprehensive and coherent vision that encompassed all officer and enlisted training, from initial to on board, and a road map for the future. Most importantly, this new vision was developed with active contributions from the waterfront. Finally, it recognized the need for a fresh approach to training, incorporating three "ground truths" learned over the years:

- You cannot separate training from other manpower and personnel issues.
- Recruiting and Retention cannot be ignored.
- With so much change on the horizon, small adjustments to the "way we've always done it" simply won't work.

When I received my commission 31 years ago, most training was accomplished through good, old-fashioned OJT. As an ensign, I learned to "drive" by doing exactly that—conning USS ***Collett*** (DD 730) in and out of any number of ports. For gunnery "training" we had the real thing—Vietnam.

In the post-Vietnam era, computing technology advances allowed us to pursue large-scale trainers to train our crews in places like FLEASWTRACEN, FLTCOMBATRACEN, and the Great Lakes "hot plant." It was in these vast schoolhouses that many of you spent countless hours in "team trainers" fighting Soviet ***Victors***, wrestling with condensate depression, navigating tricky shoal water or honing the latest OTH-T tactics to wage war-at-sea.

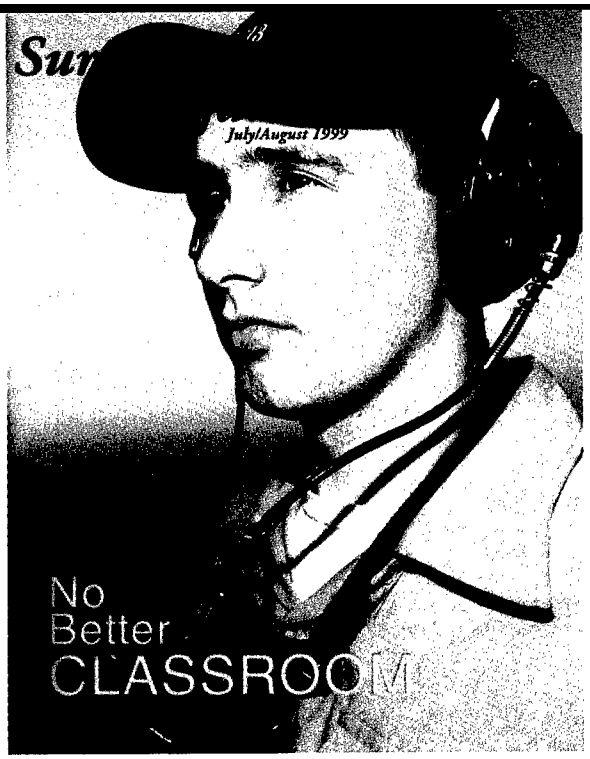
In the last decade, the preeminence of the desktop computer enabled us to return training on board our ships; systems such as the AN/SQQ-89 on-board trainer, Aegis Combat Training System, damage control simulator and countless computerized lesson plans used for individual training lectures. This is a step in the right direction because *there is simply no better training classroom than the sea!*

Don't misunderstand me—there always will be a need and role for our shore-based training facilities. But the tremendous advances in communications and networking technologies, coupled with unprecedented desktop computing capabilities, afford us the opportunity to train *dynamically*, with the very weapons and systems we bring to sea. These new on-board, embedded and distance-supported training devices will pick up where initial, schoolhouse training leaves off and keep fleet skills razor sharp. Consequently, we will reap the benefits of OJT, while ensuring the latest knowledge is continually available, and at the right pace.

It now remains our task to "get the word out." That is the purpose of this issue of *Surface Warfare*. You will soon see these words translate into actions. In fact, many are already underway. In each of these initiatives you will see our central theme reiterated—the most important shipboard "system" is the crew.

One last note to the JOs regarding postgraduate education. Surface Warfare Officers will fill more than 100 Naval Postgraduate School (NPS) quotas in FY 00. Currently, about 70 officers have been selected to attend NPS next year, but quotas are still available in very popular curriculums, including Operations Analysis (OA), Space Systems Operations and Information Warfare. The 24 National Security Affairs quotas represent the most ever offered to SWOs. There are a dozen of these still remaining. In addition, two new NPS curricula will commence in FY 00: Information Sciences, Systems, and Operations and Systems Engineering Integration. These two curricula address information and technological revolution taking place throughout the fleet, specifically developed to help SWOs "fight and win" with the most advanced generation of combatants. I highly recommend all second-tour division officers to consider NPS for your well-deserved shore assignments.

Mike Mullen
Rear Admiral, U.S. Navy



(Sammy Dallal/USN)

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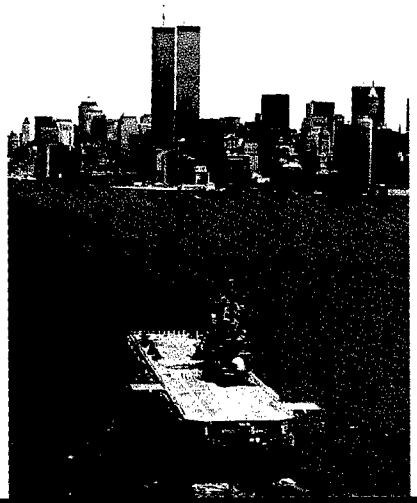

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USS *Kearsage* (LHD 3)
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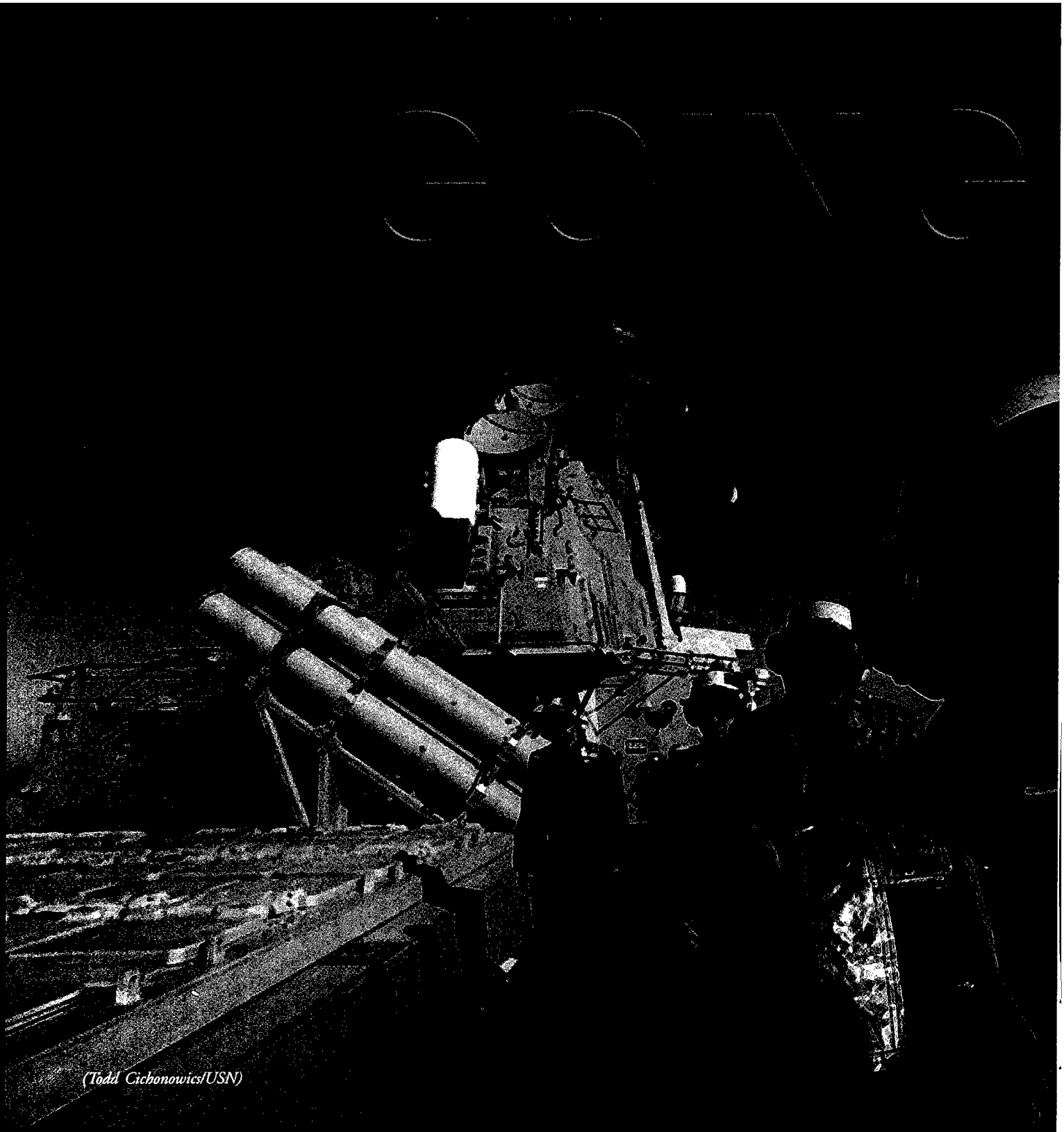


(Todd Cichonowics/USN)

by RADM Mike G. Mullen

TO SEA

As missions evolve, new demands will be levied on the surface force. The success of meeting these demands remains the challenge of the Navy's most valuable asset:

As the first TACTICAL ACTION OFFICER of the first Land-Attack Destroyer reports to Surface Warfare Officers School for training, I want you, as a surface warrior, to think about manpower requirements and how they are determined.

As the PETTY OFFICERS who will operate and maintain LPD 17's flight deck, well deck and combat-cargo systems begin their training pipelines, I want you to think about the training those young men and women will receive.

As DD 21 CAPTAINS and MASTER CHIEFS are recruited and trained, we must ask ourselves: Are we satisfied with the *status quo*? Are there sufficient resources to continue to do "business as usual" and to correct design problems on new ships and systems by "throwing people" at those problems after the fact? Or, has so much already changed—and will continue to change—that a fresh look at surface warfare's manpower, personnel and training is required?

(Bath Iron Works Corp)

World events dictate discussions on defense and how the Navy will be structured and employed in the next century. The result of force-structure reviews during the 1990s is a smaller, but more lethal, surface force. Not surprisingly, rapidly changing threats, new and evolving mission areas and advancing technology applications have raised the premium value of each ship and, more significantly, of every Sailor.

Over the past three years the surface warfare leadership has been defining and refining a vision for naval surface forces and surface warriors. This road map is based on the importance of forward-deployed surface forces and their growing role in the future [SWM, Jan/Feb 1999]. Operations will become more independent and, simultaneously, will be more joint, requiring integrated solutions. Theater air dominance and land attack will make surface forces even more integral to individual commanders' in chief war plans. Yet we will continue to exercise maritime dominance in the littorals as well as on the high seas. It is clear that as this vision unfolds and new missions evolve, new demands will be levied on the surface force, and the success of meeting these demands will remain the challenge of the Navy's most valuable asset: *people.*

Critical to the future of the Surface Navy is our ability to bring our complex ships to life with the most efficient and effective mix of people, skills and technology. Once those Sailors are in place, ensuring vital training and follow-on support becomes paramount. It is this fundamental requirement, neglected at times in the past, that has lead to a "rethinking" of the way we assess and fund our manpower, personnel and training accounts and how we will structure, tailor and conduct training in the future.

Essentially, the surface warfare leadership envisions a system that:

- Encompasses evolving warfare requirements not only for new ships, but also for the legacy fleet
- Enables fleet operational readiness
- Places a premium on, and acknowledges the value of, the individual
- Promotes core values, community culture and traditions.

Properly supported, funded and implemented, this system will deliver optimally trained Sailors to all surface ships at the right time.

Fundamental to developing any manpower and training strategy is the mission. Warfighting requirements place enormous demands on surface forces,

and crews must be trained and ready at all times to accomplish assigned missions. When USS *Arleigh Burke* (DDG 51) was commissioned in 1991, her namesake, the late ADM Arleigh A. Burke, said of the new destroyer class, "This ship is built to fight. You had better know how." Burke's words, along with his profound warfighting skills, keen insight and sound advice, have withstood the test of time. They provide the foundation for the surface warfare community manpower, personnel and training, in a future dominated by information warfare, network centric warfare, distributed firepower and joint interoperability.

Overcoming Constraints

Recognizing the need to correctly train and optimally man crews at the right time is one thing. Achieving that goal is another. The battlefield is becoming more complex: missions are expanding and evolving in the swirl of technological change; defense budgets are tightening; force levels are shrinking; and recruiting and retention are becoming even more challenging. It is important to remember that whatever decisions we make regarding future ships and evolving missions, the legacy fleet—today's combatants and expeditionary warfare ships—must fit into the equation.

Why? Because this incredibly capable legacy fleet will retain more than 90 percent of the surface force—at-sea manning requirement in 2020—and these Sailors must be supported. If our objective is to maximize warfighting capability, then every ship must be interoperable (data and information systems smoothly linking all players), compatible (UNREP, flight operations, seamanship evolutions, etc.) and supportable (an evolved and mission-oriented infrastructure, community management, etc.). Therefore, manpower, personnel and training requirements must be coordinated and tailored to correspond with our warfighting investments, and they must evolve in parallel. The days of linear evolution of hardware and fixing system and ship design problems by adding people and training after the fact are over.

As requirements for manpower and training are established, no organizations play a bigger or more important role in meeting those requirements than the systems commands (NAVSEA, NAVAIR and SPAWAR), program executive offices (PEOs) and individual acquisition program managers. Managing the acquisition of any system or ship is a complex and demanding task, with competition for re-

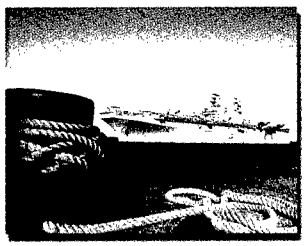
VISION CORNERSTONES

People. If our vision of the 21st-century surface force is not clear by now, the crew is the most valuable shipboard asset, and ships and systems must be designed around them. We no longer can afford to throw our valuable Sailors at design and process problems. We simply cannot afford to have Sailors in the world's most capable Navy living and working in spaces where quality of life is an afterthought.

Accordingly, Sailors have to be the Navy's number one priority. More than ever before, it will be critical to recruit, train and retain the *right* mix of people. We must view each Sailor as an investment, not as an expense—and we must remember that 20 years of experience requires 20 years to accumulate.

Training. Obviously, surface warfare training must improve and become more efficient. Optimal manning will increase the premium on each individual, as well as the premium on education, training and experience. Initial training will be tailored and billet-specific, similar to the Surface Warfare Officer continuum. On-the-job and proficiency training will be improved through investment and advances in embedded and distance-supported training. Tailored and improved initial training, combined with a markedly improved capability for the ship to train itself, will promote watchstation qualification shortly after reporting aboard.

As missions evolve and warfighting requirements change, shipboard functions will require new or redefined billets. In turn, these billets will require training based on task analysis. We need to be analyzing and making recommendations *now* on the type of training and support required for warfare proficiency. As ships and systems are designed, we must take an integrated look at manpower and training requirements. Traditional *stovepiped* system acquisition and development must change to avoid artificial or excessive manpower and training requirements. The ship and crew must be viewed as *one* integrated system. *Top-down, functional analysis* and *human-centered design* must become the routine way of doing business.



Distance Support. Distance support will provide the opportunity to move ashore many of the functions currently performed by ship's company. An initial, but certainly not all-inclusive, list of candidate functions and tasks falling into this category include system/equipment performance monitoring and maintenance; training, support and education; personnel management, disbursing and routine administrative transactions; and logistics support.

Ultimately, and similar to our approach to new ships and optimized manning, a critical, top-down, functional analysis of processes, technology and people will build, tailor, deploy and operate this distance-support site. Connectivity, bandwidth and technology integration requirements must be established, and the costs to maintain this capability identified to assist Navy leadership with investment decisions. The end state should be transparent to the Sailor at sea—easy to access and an emergent, reduced workload for the ship.

These concepts of the future—people, training and distance support—have been discussed in the context of future ships and optimized manning. But remember, the *legacy fleet* and the Sailors who crew the legacy fleet are equally as important and cannot and *have not* been ignored in our vision. Most concepts and recommendations can, in fact, be retrofitted into today's ships—and those that will make up the majority of the fleet 10-15 years from now.

(Joe Hendricks/USN)

sources a daily battle. In the past, budget adjustments or cuts often have resulted in program dollars being reduced in logistic support and training. This reduction, quite often, caused problems in providing optimal training throughout the life cycle of a system or ship. When the shortfalls show up in the fleet, the fleet properly complains, but at that point the budget's actual training dollars are insufficient to correct the deficiencies. Consequently, Band-Aid fixes are established, fingers are pointed and the burden of training Sailors is shouldered often by those people who have the least amount of time to do it.

This practice must stop. Manpower and training must be fully funded by program managers from program initiation through the life cycle of the ship or system. To do otherwise in an optimally manned Surface Navy will have serious implications for readiness and our mission capability

Optimal manning is *not* a politically correct term for minimal manning. Rather, optimal manning means having the correct number of Sailors, thoroughly prepared for their duties, in the right place at the right time—no more, no less. In future ships, optimal manning will be achieved through a top-down functional analysis. Mission function will be allocated in terms of performance trade-offs and life-cycle costs. Then, systems and the ship itself will be designed around the Sailors who will serve on board.

Through this enlightened process, design errors, which traditionally have been "fixed" by assigning more Sailors that lead directly to training shortfalls, will be avoided from the start. It's important to note that the single largest component of life-cycle cost of a naval ship is acquiring, training, assigning and supporting manpower required for operations, maintenance and support. Through optimized manning and *human systems* integration and engineering we can achieve optimally manned and optimally trained crews, with a significant reduction in ownership costs and, even more significantly, increased productivity, safety and quality of life for the crew. In short, many of the most mundane and unpleasant manpower drivers on a ship can be eliminated if we use this fresh approach to acquisition and design, and that's exactly what we intend to do in DD 21 and future surface warfare acquisition programs.

Improving the Process

The best method for improving both effectiveness and efficiency is better tailoring of the training tracks. But this method takes effort. By better analyzing the duties (new and old) of each billet, a more accurate task list emerges. Armed with such a task list, then, leadership can build more tailored training tracks to provide students *just what they need to know, just when they need to know it.* Innovations in adult learning will deliver material more effectively for each learner and promote better retention. When

aptly applied, such improvements will reduce overall pipeline length, attrition and remediation, as well as overall cost. Such an analysis will reveal new skills—chief among them will be proficiency in information warfare in the joint environment. This training must be in place soon.

Similar to improvements in initial training, advancements are on the way for on-the-job and proficiency training. Revolutionary progress is embedded with on-board and distance-support training improving dramatically combat effectiveness, while removing much of the stultifying administrative *overhead* of many current systems. Crews will spend more time learning and less time recording. We will live and work in a "learning environment."

This vision encompasses evolving warfare requirements for both new *and* legacy ships. It enables operational readiness, places a premium on the individual and promotes core values, community, culture and tradition.

Reshaping the Navy

Unlike our traditional approach to designing and, ultimately, commissioning a ship, industry is getting involved earlier in the process and is being given more responsibility for overall design and life-cycle/logistic support. In the case of DD 21, industry is not only challenged with designing the ship, but also responsible for defining the manpower and most of the training requirements. This involvement is new territory for them, and their proposals will be closely monitored for impact on recruiting, training, assignment, promotion and retention, as well as how they plan to interface with the legacy manpower and training infrastructure.

Many of our existing manpower, distribution and training policies are dated, and the supporting infrastructure struggles to meet today's needs, let alone tomorrow's. Optimal manning challenges our current way of doing business: It should. Although a daunting task, replacing this complex system is a must. Of course, initiatives or improvements in manpower, distribution and training processes mean little if we do not have the Sailors to crew our ships. The challenges of recruiting have never been greater. While the raw numbers in the 17-22 age group are increasing nationwide, the actual recruiting pool is decreasing. The economy is good, more young men and women are going to college than ever before, and pre-service disqualifiers are on the rise. We have to acknowledge these realities and find new ways to encourage young Americans to join and stay with us.

Our ability to recruit, train and retain Sailors to perform in the projected warfighting environment of the next century must have the highest priority. What this vision leads us to is a new, exciting and innovative way of manning our warships in the future. DD 21 is the flagship for these changes, and we are on our way. It will be different, exciting and fun. It will breed the surface warfighter for the 21st century.

The PLAN

by CAPT Lloyd Swift

A vision and road map for surface warfare manpower, personnel and training are only as good as the commitment of the leadership and subsequent execution. In the politics of Washington and the dynamics of the waterfront and real-world operations, priorities are constantly changing with competition for resources keen. What's "hot" today may be "cold" tomorrow, particularly in the age of information technology. Nevertheless, Surface Warfare leadership has, for the past several years, consistently expressed concern for Sailors—our number one resource and priority.

As RADM Mike Mullen, director, Surface Warfare, stated recently, "We won't even be able to get underway without you, the fleet Sailor. Your continued dedication and innovation are necessary to accomplish our mission." It is clear the investment and return on this investment in Sailors is mission-critical. Accordingly, the N869 (manpower, training) working group developed a surface training vision.

Observations

- Evolving warfighting capabilities and mission requirements are imperatives.
- New ships and the legacy fleet must be interoperable, compatible and supportable.
- Optimally manned ships and optimally trained crews with distance support are essential to fleet readiness.
- There will be an increasing premium on the individual Sailor in an optimally manned Navy.

There are a host of community and cultural issues to be resolved.

These observations lead to a number of higher-level recommendations that, in some cases, expand on good practices of the past and, in others, replace aging paradigms that do not fit in the new vision.

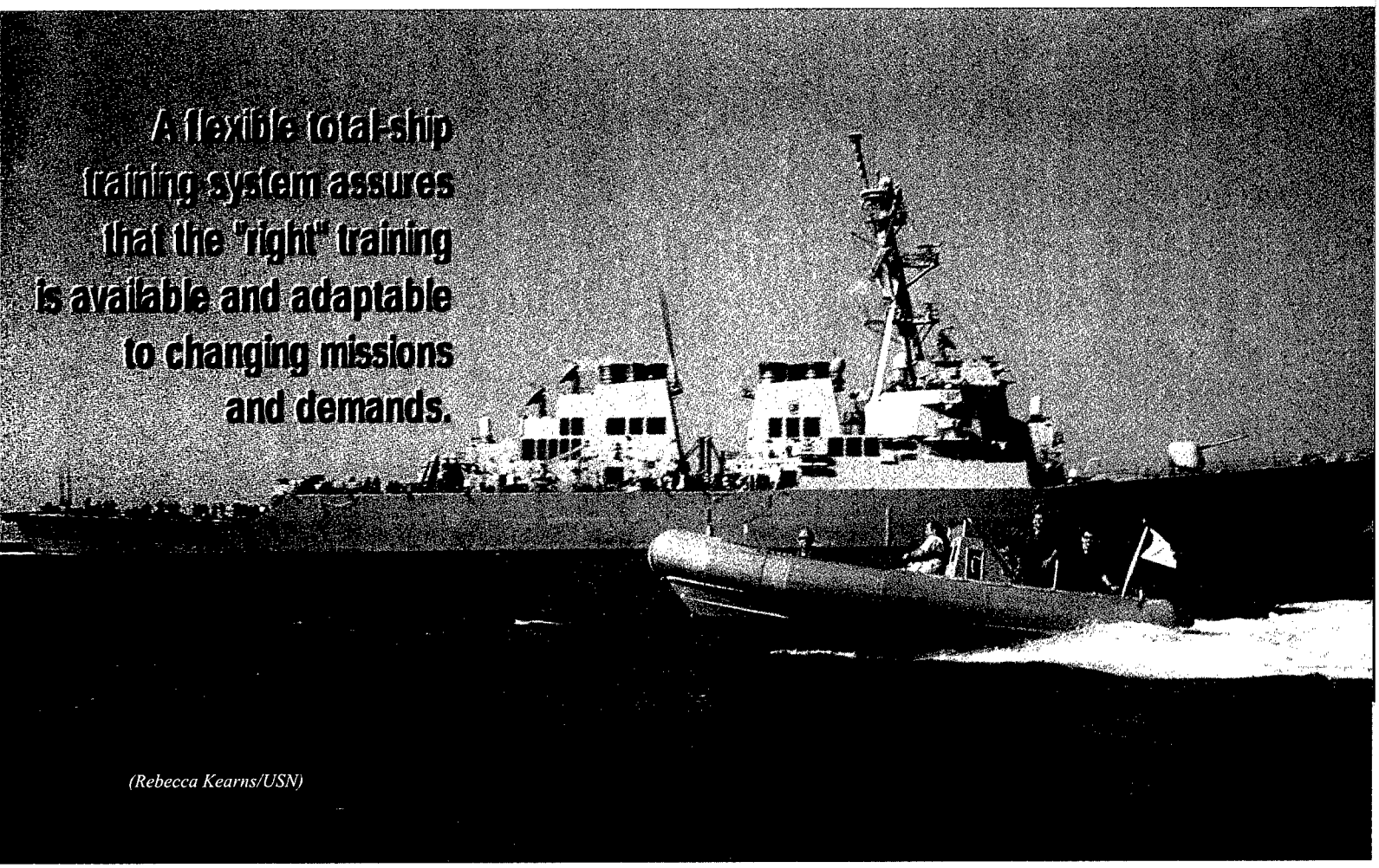
Recommendations

- Adopt and promulgate the new training vision.
- Substantially invest, up front, in people as a primary business decision.
- Underscore our commitment to people by embracing human-centered design.
- Evolve the shore infrastructure to support new ships as well as the legacy fleet.
- Tailor training to ensure Sailors report aboard *well-trained.* Embed trainers in shipboard systems and provide distance training to keep them well-trained.
- Properly fund the manpower accounts and streamline the distribution system to support optimal manning. Clearly state positions on community and cultural issues, and communicate these positions inside and outside the Navy.

When implemented, these recommendations will result in a Surface Navy that meets evolving warfighting demands with valued crews—trained and ready.

Editor's note: CAPT Swift is the head of Readiness, Training and Manpower (OPNAV N869) on the staff of the Director of Surface Warfare (OPNAV N86).

Total-Ship Training



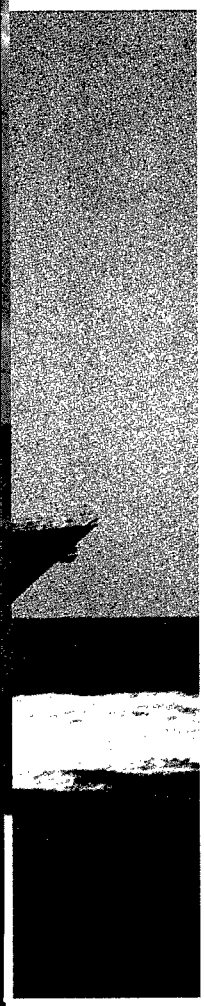
A flexible total-ship training system assures that the "right" training is available and adaptable to changing missions and demands.

(Rebecca Kearns/USN)

Future naval surface force operations are likely to be littoral in nature, characterized by a compressed battlespace, ambiguous threats, significant reductions in threat-reaction (response) time, and the potential for information overload. Additionally, naval surface operations will encompass a wider range of missions and requirements than there are today, including more participation with joint and allied forces. Combined with the pressure to reduce defense spending and to support infrastructure and crew size, 21st-century operations will place unprecedented demands on human operators, teams and systems. Accordingly, the

by Dr. Jan Cannon-Bowers

for the 21st Century



requirement for effective, efficient and early shipboard training will be more important than ever before.

Foremost is the need to develop a flexible *total-ship training system,* which assures that the "right" training is available and readily adaptable to changing missions and demands. It must be capable of being activated on demand—*anywhere and at anytime*—for the numerous tasks related to various operational contingencies. Designed properly, a total-ship training system becomes a crucial force-multiplier because it enhances readiness through more timely and better preparation of warfighters.

One way the Surface Navy is increasing training effectiveness is improving on-board training capabilities for ship's company, enabling the crew to *train the way they fight,* a strategy advocated when preparing individuals to perform in complex, combat environments.

Training and the Future

A total-ship training system complements, augments and extends shore-based initial training. A well-de-

Tools and Strategies

Meeting the training vision challenges of a total-ship training system/capability requires exploiting emerging human performance and training technologies.

On-demand training—Training tailored quickly to meet known and real-time performance deficiencies. This capability "empowers" the ship by putting control of training in the hands of ship's company.

Just-in-time training—Advanced skill/knowledge training tailored to specific situational/environmental needs (e.g., operations in the Arabian Gulf) and conducted immediately before the skill/knowledge is required.

Mission rehearsal—Enables operators to practice a simulated evolution before conducting it, reducing "skill decay" because personnel can practice crucial skills before any event or evolution.

Distance learning—Remote training via video teleconferencing (or similar technology) broadcasted to ships at sea or in port, providing training on demand to crew members.

Continuous learning—All evolutions are treated as a training opportunity. Performance goals are set before an evolution begins, performance data must be collected relative to the goal, and specific feedback must be provided at the conclusion of the evolution.

Job/training aids—Using available technology as both a training and a job aid. For example, using electronic technical manuals and tactical memos for training, as well as online aid during job performance.

Improved distributed/joint training—Distributed simulation technology (e.g., BFTT, JSIMS, etc.) provides the opportunity for distributed battle group, battle force and joint training.

Multimedia training—Using multimedia tools to learn tasks. However, appropriate application of video, graphics, text, simulation and animation to optimize retention and availability of knowledge, particularly under stressful conditions, requires additional research.

Intelligent tutoring—Automatically tracking and assessing a trainee's performance and then adjusting instruction according to the student's inferred learning state.

Virtual reality—Research demonstrates that this strategy can be effective for tasks that normally are difficult to train (e.g., shiphandling).

Team self-correction—Research shows that effectiveness of training exercises can be enhanced through a systematic approach involving guided team practice. Instructors observe and record examples of a team's targeted behavior during an exercise, with the team discussing their performance in a post-exercise discussion.

Scenario-based training—Necessary skills for future surface ships operators may best be acquired by using scenario-based simulations, which allow the trainee to practice recognizing important cues in situations and then to respond appropriately.

Intelligent training/competency management—An automated shipboard training management system to aid shipboard personnel in understanding and assessing resident shipboard competencies (i.e., real-time individual/team knowledge and skills) is needed. The systems in use today are manual, insufficient in providing detailed information on training needs and are too cumbersome to manage. An automated system would include the capability to assess training-needs, target knowledge and skills, prioritize and forecast training needs, record performance and provide crew members with individualized training and development plans. The system would be a decision-support tool, aiding shipboard personnel in defining training needs, tracking proficiency and personnel qualifications and centralizing training and performance data.

signed, total-ship training system will provide meaningful on-the-job, proficiency and team training; adapt to the needs of trainees; facilitate individual and team performance; and integrate into multiship, battle group and joint exercises. Total-ship training must be flexible enough to accommodate all shipboard operators, maintainers and teams, regardless of the shipboard task or expertise level. The system administration *cannot* burden the crew; it must be user-friendly, reliable, effective and minimize the need for operator intervention.

Tools and Strategies

Meeting the training vision challenges of a total-ship training system/capability requires exploiting emerging human performance and training technologies.

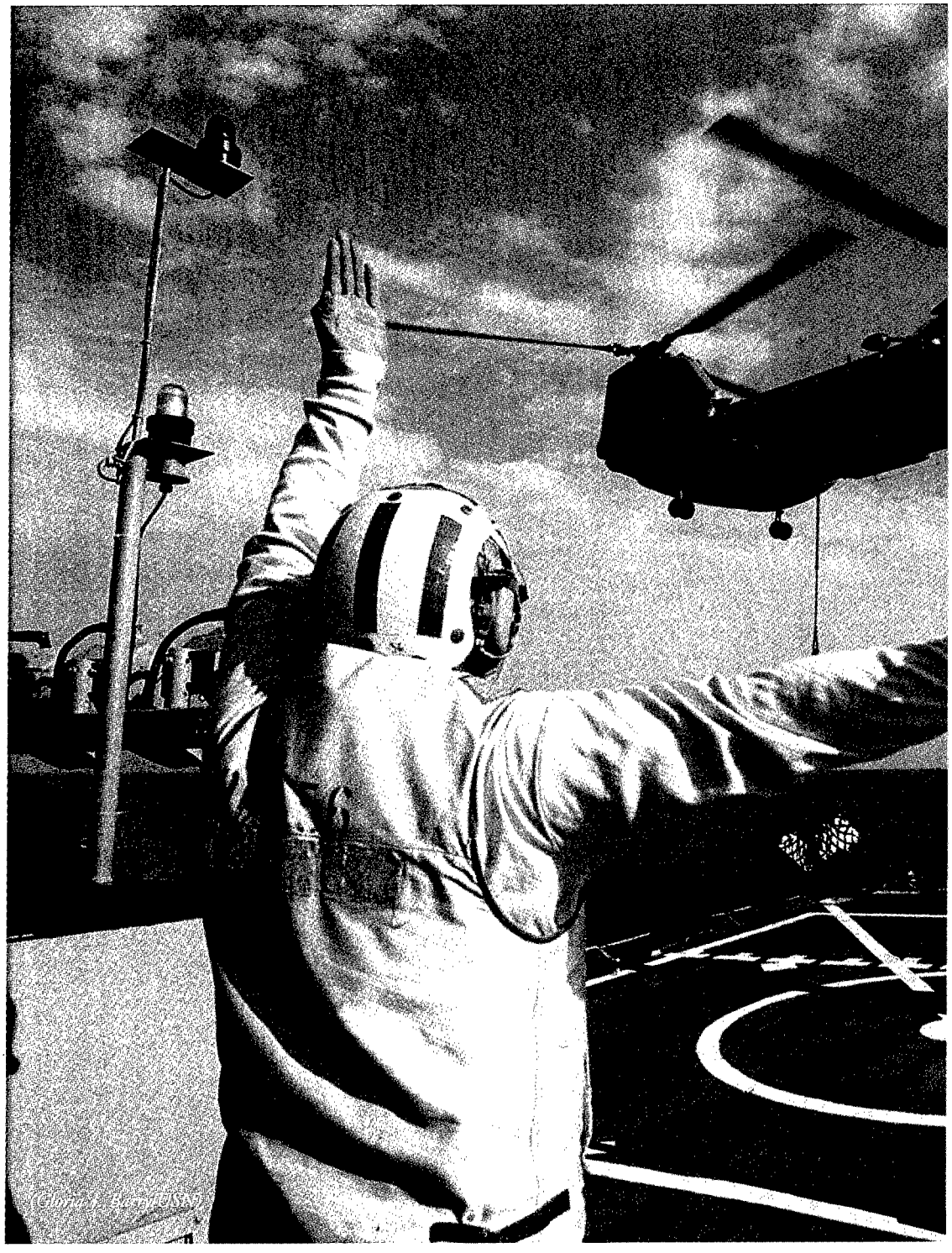
- On-demand training
- Just-in-time training
- Mission rehearsal
- Distance learning
- Continuous learning
- Job/training aids
- Improved distributed/joint training
- Multimedia training
- Intelligent tutoring
- Virtual reality
- Team self-correction (team-dimensional training)
- Scenario-based training
- Intelligent training/competency management

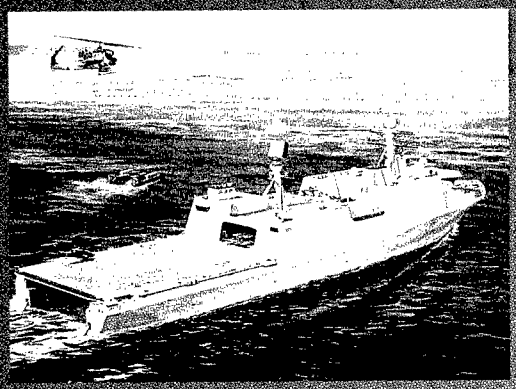
All of these elements of a total-ship training system must be embedded and accessible throughout the ship and must be supported with technology and automation that will provide: scenario development/call down/adaptation, performance monitoring, data collection, instructional and training strategies, measures of effectiveness and feedback and debriefing guidelines.

The Way Ahead

Achieving the surface warfare training vision requires three specific actions. First, advanced training research and development must continue to be conceived, planned and conducted to support training system design. Second, training requirements must be addressed as ships/systems are developed. Design problems typically become training problems. Accordingly, future ship/system design should be *human*-centered. This philosophy considers the Sailor to be the most important component of the system and stresses that design activities must focus on making the hardware and software compatible with the Sailor, not the other way around. Third and most important, Navy leadership must demonstrate a strong commitment and support for training. Training must become a top priority and not continue to be the first "target of opportunity" when tough resource decisions must be made.

Editor's note: Dr. Cannon-Bowers is a senior research psychologist in the Science and Technology Division of the Naval Air Warfare Center Training Systems Division, Orlando, Fla.





LPD 17

A Total-Ship Training System

by John Owen and Dr. Katie Ricci

The Navy has the daunting challenge of developing 21st-century surface combantants in an era of major budget reductions and at the same time, maintaining current performance levels and evolving as missions change. Because the key to life-cycle costs reduction is the concept of reduced manning, vast changes are required in the philosophy and implementation of shipboard training.

The Navy's newest amphibious ship class, the ***San Antonio***-class (LPD 17), has responded to this challenge by developing on-board training resources that allow for maximum flexibility in crew resources—a total-ship training system.

The Navy, to an extent, always has relied on shore-based schools for most overall crew training and will continue to be the foundation of skills, knowledge and attitudes for Sailors assigned to ***San Antonio***. Now, however, Sailors will be able to enjoy better, *continuous* learning with the aid of ship-supplied laptop computers, linked to the Ship Wide-Area Network (SWAN). This new approach will help refresh many necessary performance skills that otherwise are highly susceptible to degradation.

With a complete learning-resource center and electronic classroom, ***San Antonio*** will use technologies like computer-based training to reach out to the crew, whether they sit in the classroom or listen in on their laptops over the SWAN. Additionally, with distance learning available through video teletraining, ***San Antonio***'s Sailors will be able to remain current in their training syllabus. Embedded training for various systems will allow the new technician to refresh his school training and broaden his knowledge because he can learn on the actual equipment he uses.

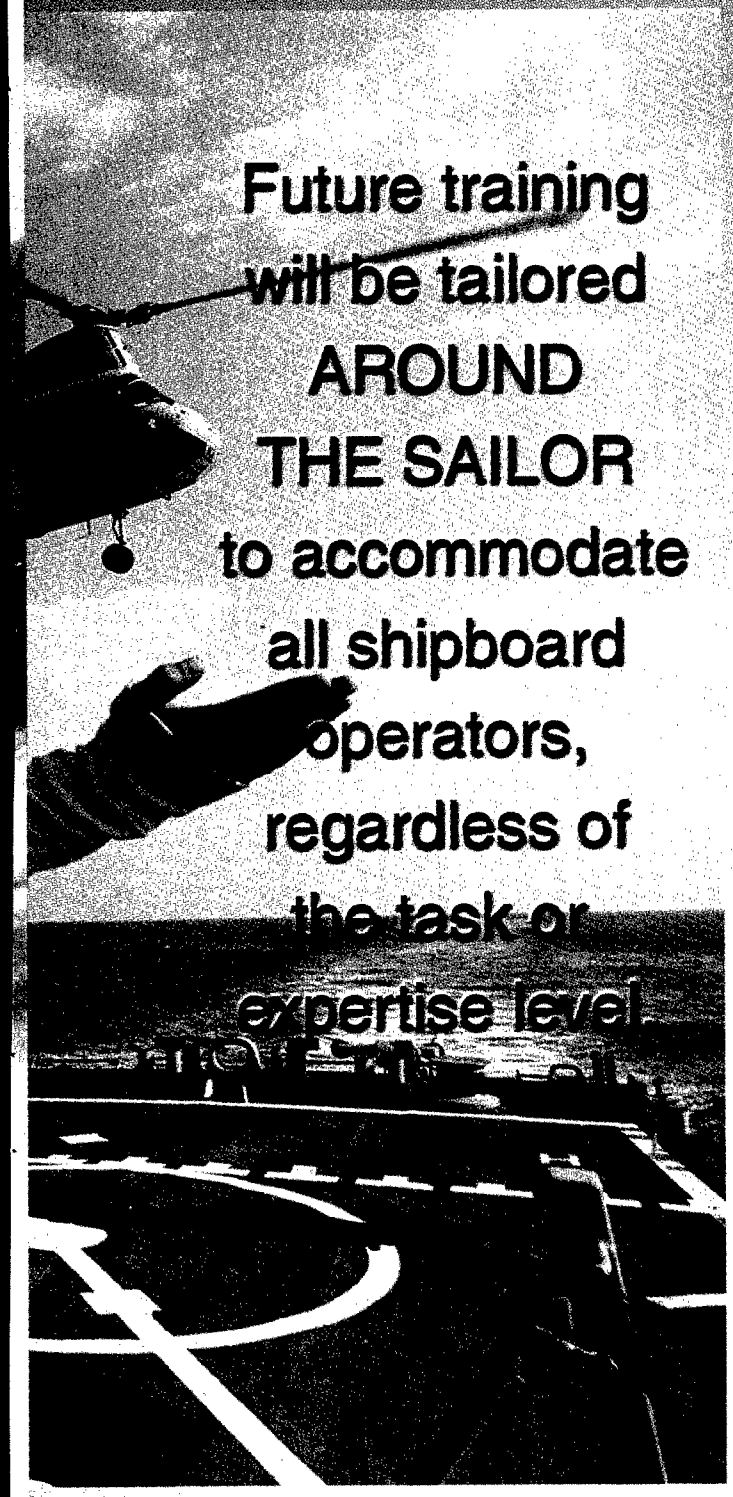
Another key feature of the total-ship training system is team training through the SWAN. Imagine the radar navigation team training and running navigation problems without leaving the combat information center (CIC). Similarly, the primary control ship team could run amphibious landing exercises—also without leaving CIC.

The SWAN provides the flexibility to train anywhere, anytime, without having to leave the ship—from the integrated training team coordinating with the combat systems training team for accurate damage simulations in their next drill, to the damage control training team and engineering training team responding to that damage.

As newer systems, like the MV-22 Osprey and the AAAV (advanced amphibious assault vehicle), develop their own embedded trainers/simulators, the goal is to integrate with ***San Antonio***. Coupled with ***San Antonio***'s built-in Marine trainers, the entire Marine Corps complement also will reap the benefits of training together through full mission rehearsal. Linking the AAAV in the well deck and the MV-22 Osprey on the flight deck into the SWAN, those Marines will share information and communications with Marines in the tactical arms coordination center and supporting arms coordination center, and with Marines training in an indoor simulated marksmanship trainer and more.

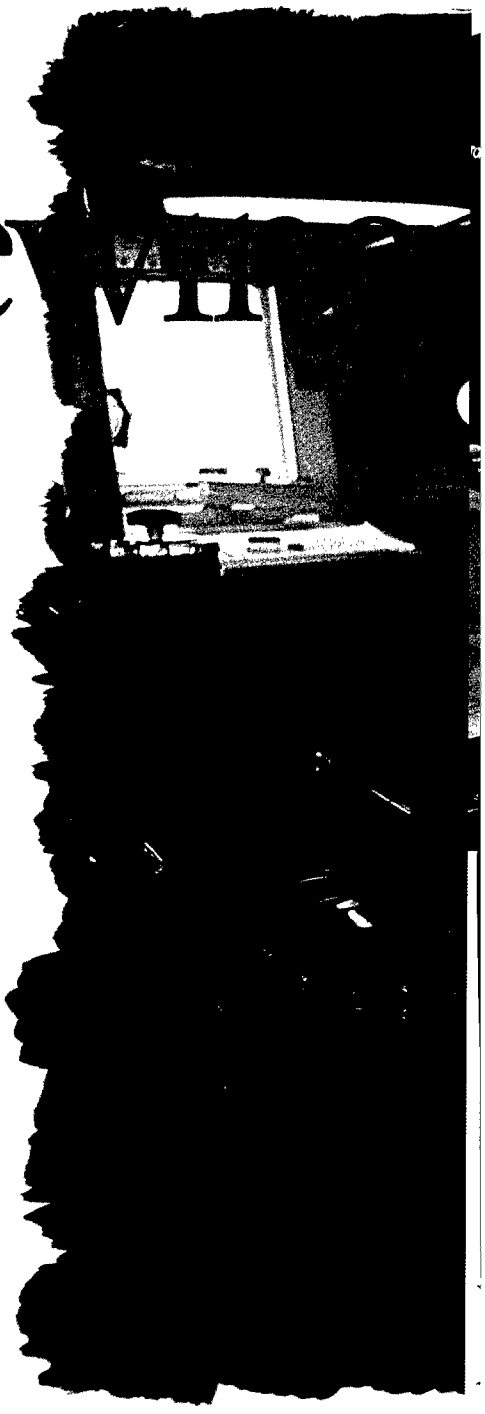
Yes, the 21st-century challenges demand attention. Yes, training must be a priority addressed early on in ship design. LPD 17 is a quantifiable example of future shipboard training. Simply put, ***San Antonio***'s total-ship training system applies future training needs and capabilities and integrates them into the look of things to come.

Editor's note: Mr. Owen is the LPD 17 training manager. Dr. Ricci is the LPD 17 lead research psychologist in the Training Systems Division at Naval Air Warfare Center, Orlando, Fla.



Optimal Crewing

Manning Objectives for Surface Ships



(Felix Garza/USN)

by Trish Hamburger, J. Robert Bost and Jennifer McNeely

The Navy has set ambitious manning objectives for future surface ships, including a goal of 95 people for DD 21, the Land-Attack Destroyer. These ships and assigned crews must possess the operational flexibility to meet forward presence and multimission warfighting requirements in both the littorals and the open ocean. At the same time, they must employ a robust self-defense capability against a variety of sophisticated and evolving threats.

From an acquisition and design perspective, three critical factors must be considered to achieve these operational and manning objectives.

First, systems engineering teams must apply human systems integration (HSI) and advanced technology within their total-ship systems engineering process to produce a ship/system design that supports optimal crewing. This approach must maximize ship and system effectiveness, readiness, reliability, total performance and safety within performance objectives and cost constraints.

Second, acquisition and design processes for ship systems must promote an integrated and interoperable design approach that includes Sailors as the *key component* of the total system design.

Third, policy and cultural issues must be reviewed and changed where necessary to facilitate the move to optimal manning. To optimally man ships and reduce life-cycle cost while maximizing performance is a significant challenge requiring changes in the traditional systems engineering methodology and the means by which manpower and training requirements are determined.

Optimal Crewing

First and foremost, *optimal crewing is not minimal crewing.* Rather, it is an analytically determined crew size, consistent with risk, affordability, human-performance capability and human workload. The largest single component of life-cycle cost for a naval ship is manpower: recruiting, training, assigning and

supporting Sailors for operations, maintenance and support. The primary benefits of optimal crewing are improved total system performance and a significant reduction in ownership costs. Other benefits include an increased emphasis on supporting human performance, productivity, safety and quality of life, resulting in enhanced crew satisfaction and greater acceptance of technology initiatives.

There are several critical factors required to achieve optimal crewing. Acquisition and design processes for ship systems must foster a design approach that encompasses human roles and requirements while reducing workload allocation to people. Additionally, the Navy's current policies for personnel and training and supporting infrastructure and the means to support a new and potentially different crew composition in a competitive, personnel resource market must be reviewed. Finally, the laws, regulations, doctrine and cultural drivers for all of these policies must be addressed.

An optimal crewing strategy begins with an assumed manning level of zero. Human involvement must be justified through top-down, functional and task analysis. Human involvement requirements must be defined by human systems integration (HSI), a human-centered, systems engineering process. HSI brings to systems design a concern for the human as a part of the total system. It is an application of total systems engineering with emphasis on the roles, responsibilities and requirements for the human. The processes, tools and data required to integrate human performance into a system also are part of HSI, as are the traditional, human-factored areas such as manpower, personnel, training, safety and life support. Through HSI, mission function and task allocation can be analytically applied to hardware, software or people in terms of life-cycle cost and performance tradeoffs.

Processes that include human roles and promote integrated design have been used extensively in systems where human performance and safety are critical, such as manned spacecraft, commercial and military aircraft, and nuclear power plants. To fully apply these concepts to total-ship design in surface ship programs, the focus must shift to "using" people as decision-makers rather than data integrators. Only then can task allocation between humans and machines for receiving and sending information, formulating decisions, maintaining situational awareness and managing a tactical engagement significantly change.

Knowledge Engineering

The speed, multiplicity and complexity of current and future threats, coupled with fewer crew members, demand that much of the human intervention with current systems be eliminated. In today's combat systems, a Sailor receives, verifies, processes, correlates, prioritizes and translates data to information by determining its relevance to the situation at hand. Then, to understand and manage the tactical situation, the Sailor processes the information into knowledge of what is happening. In future tactical systems, the emphasis will be on *knowledge engineering*, wherein data processing will be automated, as will many of the computations and much of the correlating, checking and extracting information. This information then will be interpreted in the context of the current tactical situation to provide knowledge (as opposed to data and information) to the warfighter. With an improved and effective interface to the hardware/software system, the warfighter will be able to *intuitively* understand and decisively control the tactical environment.

Optimal crewing could impact the variety and types of skills required of an individual, thus impacting recruiting, personnel assignment and community-management activities. A paradigm skill level will shift from today's nominal crew composition to one we might see in the future. This different construct will pose new challenges for recruiting, career progression and crew continuity.

The traditional models for personnel resource acquisition and development do not support this projected crew composition model. In the past, skills, rules and knowledge were developed as crew members progressed up the pyramid. For optimally manned ships of the future, there may be no prior assignments where this training occurs and experience is acquired. New crew members may be required to report with the requisite knowledge and skills and maintain those specific skills throughout their duty assignment. A resource model, which will be sustainable throughout a program's life and can integrate with existing Navy manpower and training processes and systems, must be developed to implement and validate these potential manpower and training requirements.

Training Like We Fight

Sailors and new crews on optimally manned ships will require advanced training

(Franklin Call/USN)

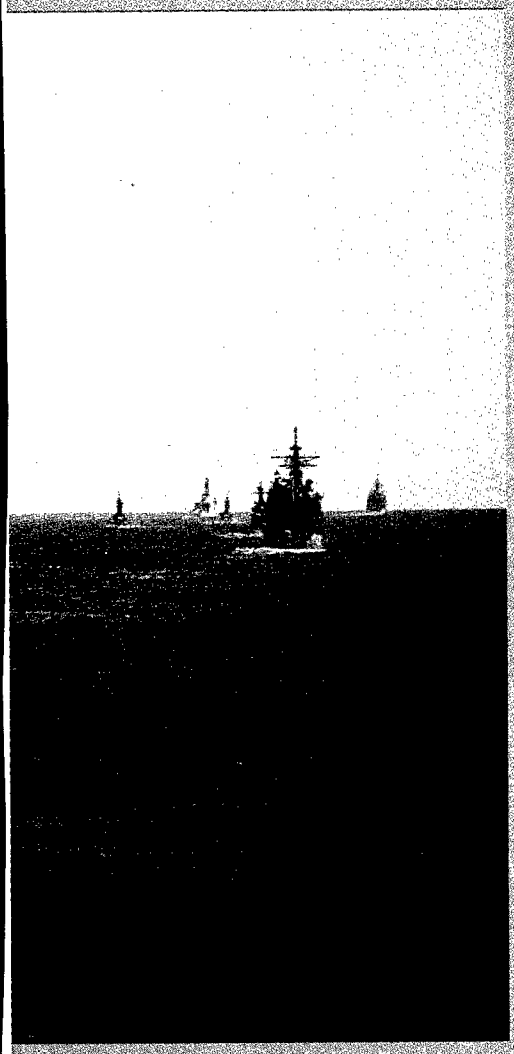
methods. The amount of training required to effectively operate and maintain systems must be reduced through more intuitive interfaces, intelligent aids and embedded training. Embedded training supports the philosophy to "train like you fight" in a real environment with shipboard teams using shipboard, tactical equipment and systems. It also provides for just-in-time training to warfighters to actual system employment.

Embedded training is done by the tactical system in a nontactical mode. It includes the use of intelligent agents to evaluate responses in real-time, to provide immediate feedback for effective learning and to maintain information on the warfighter's strong and weak areas, so future training can be tailored to *real* needs. Skills and knowledge cross training also will be necessary.

The scope of requirements demands more reliance on refreshing perishable skills as needed at sea. Several actions are essential to reduce risk and achieve optimal manning.

Existing culture, traditions and policies must be addressed. Surface warfare leadership must determine and pass on to the community how much change is acceptable and at what pace. The science and technology, and research and development communities must provide affordable technologies to reduce human workload. New operating means, such as an integrated command environment, must be developed. And all of these actions must have continual fleet input to ensure the ships and systems we are designing for the 21st century will guarantee surface warriors can successfully fight and win.

Editor's note: Trish Hamburger is the technical lead for SC 21's Science and Technology Manning Affordability Initiative. J. Robert Bost is the director, Human Systems Integration Division, Naval Sea Systems Command, and the department head for DD 21 Program Office Manning/Human Systems Integration. Jennifer McNeely is the deputy department head for DD 21 Program Office Manning/Human Systems Integration.



(Renso Amariz/USN)

ACQUISITION and DESIGN PROCESSES for ship systems must foster a design approach that encompasses HUMAN ROLES and REQUIREMENTS while reducing workload allocation to people.

The TASK-CENTRIC

Watchstation

SEA OF JAPAN, Sept. 12, 2010—It has been only 32 days since the first Red Country (RC) units made their coordinated incursion over the de-militarized zone (DMZ) to start this conflict. The allies, initially, had given ground, then the RC advancement stopped. And now this newest, 21st-century, DD 21-class ship found herself in the middle of an allied thrust to put the world back where it was in early August.

"Today was going to be an exceptionally busy day," LT Campbell thought to herself, as she sat at her multimodal watchstation (MMWS) or, as the crew called it, *the station.* As leader of the air defense, three-member team and co-leader for land attack in a five-member, warfare operations subgroup, she had supported both air and land-attack missions the previous day, but not on a scale as planned for today.

Coming on watch was easy these days. She remembered the old days on an *Aegis* ship where sitting through briefings and shuffling through papers was the norm. Now she had the information she needed, packaged and delivered to her at the watch briefing. The arrangement of watchstations in a 12-member, fully crewed combat information center (CIC) also allowed her easy face-to-face conversations with her team as they completed the turnover from the night watch. With a voice command she spoke "LT Campbell" and placed a thumb print in the square on the lower center of four flat-panel displays, which launched her station's task-management assistant into action. There were no ID cards to lose or passwords to remember.

Officially, the MMWS labeled the task "situation awareness update" on her task-manager display, but the crew called it the "wake-up call" task. The station summarized events relevant to her job and the planned mission. She liked the way it noted changes since she was last on watch—*No change in ROE* [rules of engagement] ... *Intel on air launches out of land-based installations* ...

by Dr. Glenn A. Osga

(Gloria J. Barry/USN)

... Weather looks good ... Waiting for specific tasking from JTF [joint task force commander] *and ATF* [amphibious task force commander] *in support of Land Attack and Air Defense/Strike Support missions.* "OK," she thought, "today we could really earn our paychecks."

Her thought process was broken momentarily by a voice message coming over her 3-D audio headset. The message originated from the upper right, front area of her station, where she had put the icon on the sound-management graphic display. At the same time, the conversation between her team's IC (information coordinator) and SC (systems coordinator) was easily recognized in 3-D audio space to her front left. The conversation about Track 7433 caught her attention, since it was a downed aircraft just off the RC coast in the operations area where she would be working.

"Play last three voice reports on Track 7433," she spoke to the station. The digital-audio database stored all communications, to be sorted later by sender, destination, time or other topics. A speech analysis technique, called wordspotting, looked for instances of Track 7433 in the multitude of conversations recorded during last night's watch and presented them neatly in an ordered list with graphics showing start and stop points for each audio segment.

She pointed to the screen and said, "play" and heard the first of three conversations about the helo reported missing at 0230 that morning. Gone were the days of hastily writing down notes, making grease pencil marks while conversations ran in real-time (and were then *lost* in time), or annoying repetitions until all listeners had the right track number.

An audio icon sounded from the location of her right side display. No matter that she had momentarily turned her head to the left to talk to the IC. Three-dimensional head tracking, built into the headset, continuously recorded head position and transmitted the alert to her through the stereo headset as if it came from the precise display location. The audio indicated that the anticipated operational tasking was arriving from the joint task force commander. She had already decided to partition her display workspace into areas for land attack (LA) and air defense, anticipating a heavy LA role this watch.

Her task-manager display showed clearly defined graphic timelines for activities related to mission planning, target pairing and weapons launch for designated RC targets. The mission was clear—in preparation for 7th Corps advancements, neutralize as much of the RC-armored units with Tomahawks, Land-Attack Standard Missiles (LASM) and Extended-Range Guided Munition (ERGM) rounds in coordination with air strikes from USS ***Abraham Lincoln*** (CVN 72) Battle Group. The CIC team also was concerned with identification duties for aircraft departing and returning from their battle group, as well as area air-defense for potential RC, surface-to-surface missile launches.

Coordinated strikes were arriving on her land-attack, task-manager display in grouped packages, parsed and set up by the software in organized rows of tasks, spread across the mission timeline. At the same time, she noted an alert icon for Coordinated Strike 9001 and pointed to the task icon for further explanation. Although she knew that automation could handle part of the work, she had to supervise tasks and be ready to jump in to handle problems not resolved by automated assistants. In this case, a forward launcher on an Aegis ship was down, but was assigned to the strike 9001 package calling for a specific Tomahawk by tail number. The mission plan offered an alternate missile launcher but needed her approval as lead coordinator. She

The Surface Warfare **Training Vision** is conducting critical and detailed analysis of new WATCHSTATION tasks to develop the proper TRAINING PIPELINES to ensure future surface warriors are ready to RELIEVE the watch.

(Joe Hendricks/USN)

decided to check on the current launcher status since there was enough time before this "time-on-target" mission began. At nearly the same time, she noticed the red icon on the systems' status report from the "shooter" vessel turn yellow, indicating that it would be back online at 0730 in plenty of time for the required launch.

As the task bars continued updating LA mission progress, LT Campbell turned her attention to the air-situation display. The task list for air called for surveillance against any mobile launchers, but her particular concern was the potential air threat against the battle group by RC attack aircraft. Intel reported that an air wing had been moved from the far north to a base near the DMZ. In this littoral zone, reaction times for the RC aircraft involved in the land battle would be short. Suddenly, the RC aircraft begin turning to attack naval forces. Surveying the task manager display, she could see a sequence of steps planned for any hostile, or assumed hostile, aircraft approaching their battle group. Therefore, she knew what the system, including automation settings, would do in this case: "manage by permission" rules were in place. Thus she would be called upon to confirm any defensive launches.

SEA OF JAPAN, 1030, Sept. 12, 2010—*The fifth of 10 planned Tomahawk missiles just launched. An unplanned, but time-urgent, call-for-fire support mission had just arrived from the 31st Marine Expeditionary Unit. LT Campbell's right side display showed the lines of fire with task bars showing the progress of a planned volley of ERGM rounds to GPS (Global Positioning System) coordinates delivered just moments earlier.*

Her brief survey of land-attack support tasking was abruptly broken by an audio message coming from the left display, "unknown air turning inbound." A short time later, the symbol turned into a hostile air threat and continued on a threatening course, not toward them, but to a fleet oiler transiting to the north. The tactical display and task- manager displays showed potential timelines for interception by her own ship's missiles.

The task to vector defensive counter-air (DCA) aircraft from the closest patrol station also showed an alternate mission solution. The TSC (total-ship coordinator) recommended a DCA-vectoring solution to the team since interception was possible in a short time, as depicted in the task-response plan. As WC (warfare coordinator), LT Campbell was responsible for implementing that plan. She pointed to the threatening track symbol and selected the "vector DCA to threat" task. Several things happened:

- An appropriate voice message scripted to the DCA was shown.
- Her display showed a zoomed-in tactical display with the DCA flight solution and time.
- The threatening track's history was shown.
- Possible tasks to illuminate, warn or perform an IFF (identification friend or foe) challenge were shown on the task-manager display, since none were previously done.

She simply could select the message and hear a digitized message with her own voice sent out to the aircraft. The message would be clearly transmitted to the call name of the aircraft with a copy to "Red Crown," an identification supervisor for the battle group, seated just a few feet away.

It was good that she was not tied up in dictating the voice messages. Just then, the embedded naval gunfire assistant notified the system coordinator that a hot hydraulic seal was of concern for the ERGM mission in progress. In response, the NSFS (naval surface fire support) assistant displays showed four options for working around the problem, most of which could maintain the firing rate for the time being. Not wishing to be distracted from his current visual task, the SC acknowledged by voice command to approve the gunfire assistant's recommended course of action. While watching the NSFS-SC interaction on her center display, LT Campbell sent the DCA-vector voice message, responded to the aircraft's acknowledgement, and watched the friend-air symbols change course toward the air-threat's path. In the meantime, the SC authorized the ERGM call-for-fire rounds as prompted by his task-manager display. Two urgent mission requests were addressed quickly by the small team in parallel with a quick assessment of equipment issues.

Changing the CIC Design

Is this "gee whiz" technology just to show that we can do it ... or is it something more fundamental? This futuristic script implies several revolutionary changes from the CIC of today—notably, a flexible structure of cross training and skills not segmented by the submode structure imposed by today's software. Gone are the specialized Tomahawk, gun or Standard missile consoles. Gone are the stovepipe software applications tied one-to-one with a specific console. Gone is the distinction between "decision-maker" and "operator" with their respective software and separate workspaces. The ship information structure and information delivery is supplied to the CIC team in a *task-centric* manner. Key concepts of this task-centric design approach are:

- tailoring information to tasks
- user workload and task management
- streamlining task procedures
- multitasking user support.

If these skills are fundamentally different from the past, where did LT Campbell receive her training? Who was sufficiently competent to develop this new curriculum and deliver it to LT Campbell and her contemporaries with the proper delivery techniques, in the proper sequence and at the proper time? What about the team training that allowed the integration of the other members of the team once they reported aboard their ship? The new Surface Warfare Training Vision is addressing these issues and is conducting critical and detailed analysis of these new watchstation tasks to develop the proper training pipelines to ensure the LT Campbells of the future are ready to relieve the watch.

Editor's note: Dr. Osga is a scientist and human-systems integration business area manager in the Simulation and Human Systems Technology Division of the Naval Warfare Systems Center in San Diego.

"War

Commanding Officer USS *Russell*'s Division SHIFTS Duties to

by LCDR Leonard V. Remias

On the eve of the of USS *Russell*'s (DDG 59) Selected Restricted Availability (SRA), the ship's commanding officer "fired" all of his division officers. Thus began *Russell*'s wardroom "war college" experiment.

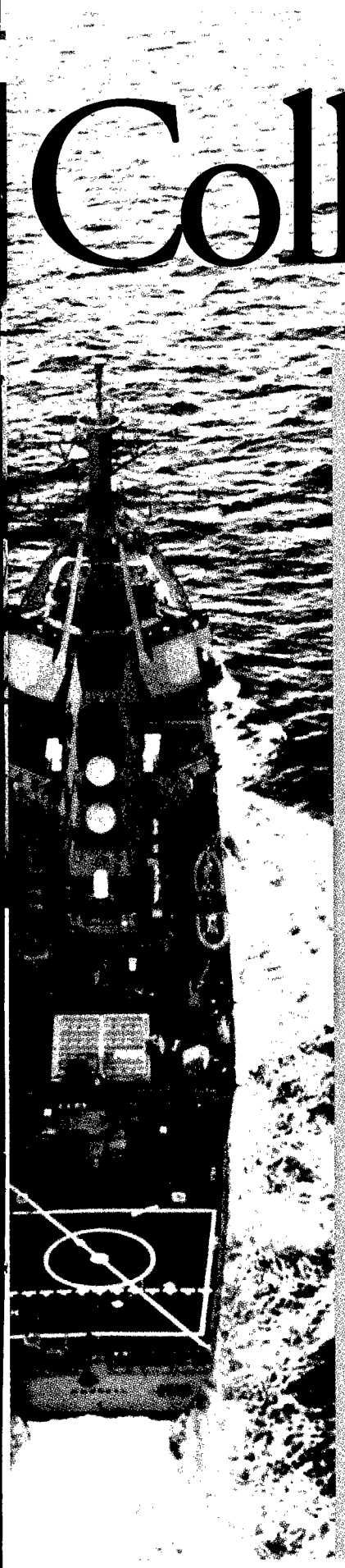
For the next nine weeks, division officers would be confined to the wardroom while *Russell*'s chiefs would assume the division officers' duties.

Dubbed SWEATEX by *Russell*'s junior officers, the surface warfare education afloat tactical training exercise cultivated the tactical proficiency skills of *Russell*'s junior officers and, at the same time, "tapped" the leadership talents of *Russell*'s chiefs and Sailors.

"I wanted a better chief's mess who felt they ran the ship," said CDR Edward M. Boorda, *Russell*'s commanding officer, "and a better division officer who learned what was important to know and pass up the chain of command, as well as learn the 'warfare' part of surface warfare."

(Ingalls Shipbuilding, Inc.)

College" At Sea



Empowering Chiefs

by QMCM(SW) Anthony R. Hintz
Command Master Chief
USS *Russell*

Webster's dictionary defines "empowerment" as "the act of giving or taking power." One week after reporting aboard as ***Russell***'s new command master chief, CDR Boorda told me he intended to turn responsibility for our upcoming SRA over to the chief petty officers and have the division officers concentrate on tactical warfare training. Without any hesitation I said, "Let's do it, sir."

What gave me the confidence to reply this way? How could I, one week into my new position, be sure the chiefs were up to the task? During the brief period between his question and my response, numerous things flashed through my mind: to my first chief, who believed the enlisted personnel on the ship could accomplish anything, and to my CMC when I put on khaki, who knew that a crew working together was the key to getting a job done quickly, efficiently and accurately the first time. However, one thing put it all together: The Chief's Creed.

On September 16 each year, the Chief's Creed is read to all new chief petty officers throughout the world. It is read with pride and emotion. One particular part of the Chief's Creed really told me that ***Russell***'s chiefs could and would assume the responsibilities the commanding officer had given them: "Ask the chief." Who better to guide and manage the SRA than the chief who is asked about everything from family planning to tactical warfare?

I began this article talking about empowerment and our SRA. I do not want to imply that the chiefs never had any power, authority or responsibility. Far from it. It is just an example of giving power to the right person at the right time. Another example happened months ago when the chiefs were tasked to get the crew into 10 duty sections. They were responsible for ensuring that qualified personnel manned all vital watchstations and emergency teams. This goal was accomplished without increasing working hours or degrading standards. The success of this can be measured by looking at the other Pearl Harbor-based ships that have followed suit. The chiefs know how much can be accomplished in a normal workday and hold the Sailors accountable for that workload. Once a Sailor knows what is expected of him or her they will live up to those expectations. So what happens now that the chiefs are empowered, the expectations known and the responsibilities defined? Who can say where USS ***Russell*** will go? The other day the commanding officer said he would like to go to 15 sections.

"Let's do it, sir."

Boorda initiated the training program to educate his crew on tactics and warfighting and use their decision-making skills to turn ***Russell*** into a better fighting ship. Although the program's primary goal was revising the captain's battle orders, other objectives included reviewing standing orders and tactical doctrine; updating the watch, quarter and station bill; developing a watch-team replacement plan; and creating a wardroom tactical library and reading program. In addition, Boorda wanted to establish a routine in day-to-day operations to compensate for a high turnover rate during a deployment.

"With a 70-percent turnover of division officers from deployment to deployment and only a 25-percent turnover of chiefs during the same timeframe," Boorda said, "I felt that it was necessary to establish a routine in how division officers, department heads and their division chiefs kept each other informed and performed the day-to-day functions of running a division."

During the SRA, ***Russell***'s junior officers were essentially TAD (temporary additional duty) on board, although division officers still were required to keep abreast of major personnel and materiel issues affecting their division. By removing the division officers from the daily tasks of leading a division, they then could concentrate on preparing warfare training lectures and tactical discussions. This ability not only enabled a better understanding of why decisions are made, but also emphasized how to use that knowledge-base to update the captain's battle orders. With division officers "out of the loop," responsibility was pushed down the chain-of-command, promoting Boorda's goal of establishing leadership at all levels. The day-to-day running of the division during the SRA fell to ***Russell***'s chief petty officers, who reported directly to each department head.

"I wanted the department heads to run with the ball, teach the DivOs how to fight the ship, and take a hard look at my battle orders and make sure that we really knew what we were saying in how to fight the ship," Boorda said. "I wanted to force the department heads, division officers and chiefs into a situation where I could get what I wanted out of the process."

Crew's Reaction

Boorda's warfighting exercises initially generated a mixed reaction from the crew, ranging from skepticism to excitement.

"When I first heard that the commanding officer was planning to remove division officers from their divisions, I was both surprised and curious," said LTJG Clayton A. Robinson, ***Russell***'s communication and ordnance officer. "I initially was surprised that he would feel comfortable without division officers in the chain-of-command, but I also wondered just what he had in mind for us." Since he was already Surface Warfare-qualified and had less than six weeks left on board, Robinson said he had "nothing to lose." Others, though, were skeptical. "My peers were afraid they might become too detached from what was going on in their divisions," he said.

However, to ENS Orin Johnson, who had just graduated from Surface Warfare Officer School's Division Officer Course and had been on board ***Russell*** less than a month, the experiment brought excitement to the beginning of his naval career.

"As a new ensign, my naval experience was limited to the driest of technical training and to the coordination of ROTC dinners," said Johnson, ***Russell***'s electrical officer. "I was very excited, then, when I found out that CDR Boorda was intent on training us *tactically.*

The Program

A five-phased training program to accomplish the commanding officer's goals was devised, with each phase exposing the wardroom to different facets of warfighting: demonstrating own ship's capabilities and limitations; intelligence briefings on real-world threats; and discussing tactics, doctrines and battle-group operations; and then, testing the revised battle orders.

The junior officers split into specialized warfare areas, including command and control, air, undersea, surface, strike and mobility/damage control. The officer most closely associated with a particular warfare area became the subject matter expert for that group. For example, the undersea warfare officer was the resident expert on USW and the fire control officer for air warfare. ***Russell***'s junior officers were tasked with researching and delivering briefs and then leading the discussions.

The first phase focused on ***Russell***'s capabilities and limitations, watchstanding and the functional organization of the warfare areas and system briefs. The second phase included intelligence briefings on potential hot spots in the world such as the Korean Peninsula; China and Taiwan; India and Pakistan; and Iran and Iraq.

During the first two phases, a department head, who provided additional input from the perspective of a tactical action officer, generally chaired the presentations. The first two phases were similar to other shipboard question-and-answer training, but the difference was training did not end at the end of the session, and, instead, continued for days in a row.

Phase three focused on ***Russell***'s battle orders, including preplanned responses, weapons postures and rules of engagement.

"The third phase really made an impression on me. At this point, the captain, executive officer and other department heads joined us in intense discussions on how we fight the ship," Robinson said. "The environment allowed us to really scrutinize *why* we do what we do to prepare for battle and served as our scrub of the current battle orders," he said, adding that this phase increased his confidence level and helped him gain a better understanding of the captain's tactical philosophies and how battle orders really work.

The fourth phase included a discussion of battle-group platform capabilities, including the carrier air wing and other fleet assets. Phase five examined the effects on ***Russell*** by reviewing the revised battle orders, watch organizations, tactical scenarios and seminars.

Robinson said he found the process beneficial. "The knowledge gained, study guides produced and required reading list generated made for an invaluable experience for those officers who were beginning their SWO qualifications and an excellent refresher for those of us who were already qualified," he said.

During the training, according to Robinson, the chief petty officers thrived in an environment that allowed them to use their technical knowledge and experience to lead their divisions. More importantly, the opportunity to assume full responsibility and accountability for daily operations inspired the chiefs and forced other subordinates to develop in new roles as well.

"When I returned to the division everything was running on automatic, not so much because the chiefs could not control a division before, but because they had not been given the opportunity," Robinson said. "This has helped me immensely as a leader and manager because I now can concentrate on mid-term planning, developing subordinates, reviewing divisional programs and learning how to be a department head."

Echoing Robinson, Johnson said the experience was both "humbling and gratifying" to learn that divisions could get along without the division officers, although his division had been running for some time without a division officer and was fine. "But I know that for myself and the other new ensigns, it was nice to have proof that we could let our chiefs take care of business and, as long as we stayed in the know, we could concentrate on our qualifications," he added.

From the Deck

by ENS Jeffrey Arneson

***Russell**'s communications officer*

What did I think of the ***Russell*** war college, or the "SWEATEX?" My views as a new ensign run along a few lines:

We discussed all the aspects of the battle doctrine, which was both good and bad. It was good for me to get an idea of the things I needed to know because the scope of information overwhelmed me, and, at times, I felt overloaded. I found it difficult to comment intelligently on issues that I did not yet understand. However, I can say that I found the atmosphere in the wardroom very refreshing. The fact that we were all active participants in important decision-making created a sense of camaraderie and team feeling among the officers. I have no doubt that ***Russell***'s warfighting ability will be that much better because those involved are active participants and not servants.

The bad part of the program was that division officers were pulled from their respective divisions. This obviously made it hard to learn my job and get acquainted with my people in my division. I found this barrier, at times, frustrating because it made being "new" harder than it otherwise would have been. I do feel that the exercise was good for the chiefs because now they understand what is expected of them. It also made being a division officer that much easier once we were placed back in the fold. I feel as though the leadership training involved with this experiment was good for both the chiefs and the junior officers.

Several other things also became apparent to me as I began to learn the daily routine of shipboard life. As an introduction to the wardroom, I thought the SWEATEX was invaluable. As a new junior officer, I thought sitting down with all the other officers aboard the ship everyday was great. I learned quickly everyone's opinions, thinking styles and personalities. I really could not think of a better way to get to know all of the officers.

Russell's junior officers learned a valuable lesson, particularly the ability to balance the demands of professional development (i.e., warfighting training), while at the same time managing a division without becoming bogged-down in day-to-day particulars. In addition, the requirement for division officers to keep abreast of their division tested the communication level and team cohesion between division officers and chiefs and actually helped foster better communication between the chief petty officer and the junior officer.

Developing Warfighters

The benefits of the SWEATEX program have been extraordinary, according to some participants, because it let officers spend structured time in an environment conducive to their professional development as surface warriors, particularly in the area of tactical training where few junior officers receive formal training until they are in the department-head school's training pipeline. In addition, it provided a forum for junior officers to learn from the knowledge and experience of their mentors: ***Russell***'s senior and limited duty officers.

"In our first week of reviewing ***Russell***'s capabilities and limitations, I learned more relevant tactical information than I had in my entire time at SWOS," said Johnson, adding that when he first reported on board ***Russell***, he was worried that he would be confined to his department, limiting his opportunities to take advantage of any tactical training. However, since SWEATEX, his views have changed significantly. "Reality was much different, and a lot of that had to do with the training. It became clear when OPS passed out the training schedule that I would not only learn the combat systems, but also learn how to employ them at a level I had believed reserved for tactical action officers," he said. In addition, Johnson said he was "pleasantly surprised" that ensigns and JGs were not only asked for input, but also that they were actually listened to when they gave their input. And, as a result, Johnson said, Russell now has a set of battle orders that everyone is not only familiar with, but also "believe in."

According to Robinson, participating in the decision-making process of rewriting the battle orders has helped him to not only better understand them, but also has given him more confidence as a combat watchstander. "Obviously, what the captain says, goes. But I cannot overemphasize the amount of confidence I have received from being able to argue points with the captain and other members of the wardroom and to hear first hand *why* decisions are made the way they are," he said. "This training program has provided an excellent solution to the problem of developing junior officers into effective, tactical warfighters and makes SWO qualification less of a personal struggle," he added.

As ***Russell*** emerged from the SRA, the Wardroom SWEATEX continued. The nine-week SWEATEX provided a framework for further wardroom training throughout ***Russell***'s inter-deployment training cycle, and, in the process, has equipped the wardroom with tactical warfighters, has made the chiefs better divisional leaders, and more importantly, has provided the captain with a better, more tactically proficient ship.

"Because of this type of unique training, I am better able to fight and defend my ship," Johnson said, "In short, to realize my full potential as a surface warrior."

Editor's Note: USS **Russell** *began the CNO nine-week Selected Restricted Availability January 13, completing it ahead of schedule while maintaining a 10-section duty, normal working hours (0730-1530), and preparing for INSURV. LCDR Remias is* **Russell***'s combat systems officer and senior watch officer.*

Migrati... into the

Since the establishment of the Destroyer School in July 1961, now the Surface Warfare Officers School Command (SWOSCOLCOM), U.S. Navy surface-officer training has been emulated worldwide. Models ranging from technical to tactical, theory to practice and the idea of the "best training the rest" help to maintain that reputation.

Extensive curriculum and training pipelines, coupled with sound instruction, are the cornerstones of that success. Equally important is the hands-on experience with equipment and training devices that brings theory to life.

by David Monroe

From the earliest days, destroyer school was well-equipped with state-of-the-art "hot plant" trainers, the actual propulsion equipment installed in ships. Years ago hurricanes silenced those hot plants, which are now only static displays. The 1970s and 1980s era of simulation brought the first full-scale plastic and wood, computerized mock-up of the FF-1052/1078 propulsion plant, at a fraction of the cost of a full-scale hot plant. The operator console trainers for the FFG 7, DD 963, LSD 41 and DDG 51 followed. Every surface warfare officer (SWO) has spent valuable time in the "plastic palace"—the gas turbine and diesel simulators. Simulation brought two advantages to the training world. For the first time, students could practice reacting to simulated catastrophic casualties far too dangerous to create in a real-world system. And because of the computer-simulation features of the trainers of the period, watchstanders, so essential on a real system, could be replaced with instructors, who were free to focus on the lessons to be learned and the EOSS (Engineering Operational Sequencing System) procedures to be followed.

Early simulators were destined to mimic the very specific features inherent in real fleet systems. Consequently, every ship class required a unique trainer to prepare SWOs to assume their watchstander and system-manager duties. The Smart Ship concept, recently tested aboard USS *Yorktown* (CG 48), with her generic watchstations, heralded changes in the nature of stovepiped control-system trainers. For the first time, ship control, navigation, damage control and propulsion control could all be performed from *any* of a number of identical consoles spread throughout the ship. SWOSCOLCOM was quick to embrace the generic nature of the Smart Ship initiative, focusing on the development of generic, PC-based, reconfigurable training consoles to prepare engineers and combat systems officers going to a variety of ship classes at costs far below those of unique, class-specific console trainers. Future SWOS trainer investments will capitalize on *Yorktown*'s reconfigurable, Smart Ship model.

Advances in personal computer speed and power have assured the feasibility of the reconfigurable concept. So, too, has the evolution of virtual reality, intelligent tutoring, intelligent targets and enabling technologies. SWOSCOLCOM, poised on the cutting edge of emerging developments, has formed strategic partnerships with the Office of Naval Research, Office of the Chief of Naval Operations, Chief of Naval Education and Training, Naval Sea Systems Command and Naval Air Warfare Center Training Systems Division to capitalize on these developments. SWOS now sports a PC-based, virtual-reality, engineering trainer featuring very high fidelity, realistic, digital images that seem to beckon the student into an actual ship.

SWOSCOLCOM is at the forefront of developing a deployable, virtual environment, shiphandling trainer that will revolutionize both school-based and on-board training of beginner through master shiphandlers. The Conning Officer Virtual Environment training system, with the inclusion of digital charts and Global Positioning System feed, could be an invaluable mission-planning and monitoring tool as well.

Re-engineering efforts of tactical training will better prepare officers to handle the complex combat systems of the future. Through strong partnerships with visionary educational professionals and aggressive leveraging of new technologies, SWOSCOLCOM is creating a robust, electronic-training environment to maximize students' tactical decision-making skills at every skill level, from division officer to major command. The goal is for students to hone their warfighting skills using reconfigurable trainers that can emulate any combat information center (CIC), and every

The Surface Warfare Officers School Command is capitalizing on advances in personal computing and technology and revolutionizing tactical training. The result: officers better prepared to handle the complex combat systems of the future.

(David W. Hanselman/USN)

officer watchstation in it, on any ship class. Simulation advances in virtual reality, multimodal watchstations, automated watchstanding and artificial intelligence should make this goal a reality within the next five years.

Near-term advances also exploit emerging technology. The Tactical Action Officer Intelligent Tutoring System (TAO ITS) is PC-based software, under development by private industry in partnership with SWOS instructors, that provides focused, TAO "stick time" with immediate, quantifiable, individual or aggregate student performance evaluations. With its scenario generator, TAO ITS supports classroom lectures, independent study and individually tailored remediation.

The multimission tactical trainer (MMTT) is a PC-based team trainer with state-of-the-art, digital communications capability that will be driven by the battle force tactical trainer. The MMTT facility at SWOSCOLCOM will feature seven CIC installations with a scenario generation capability. This capability will enable staff and students to rapidly construct scenarios in support of the tactical training and Combat Systems Training Team development. MMTT will build on the foundation laid using TAO ITS and focus the students on successful learning and training in the CIC team environment.

PC-based information technology offers powerful tools that significantly improve leadership and management effectiveness. In recognition of the benefits that information technology provides, surface warfare leadership will issue laptop PCs to department head students at SWOSCOLCOM for subsequent transfer to the fleet with the students as they graduate. With the inaugural issue to department head class 156 this past April, every student now has his own dedicated notebook computer. Improving student software proficiency and familiarizing them with accessing remote web- and CD-ROM-based information resources is a formal part of the department head course curriculum.

This exposure will create leaders and managers who understand not only the power of the existing state of information technology, but who also realize the importance of factoring future technology developments into their plans for process improvement. Complementing this initiative are the SWOS Internet and SIPRNET home pages (http://www.swos.navy.mil and http://www.swos.navy.smil.mil) for downloading training material and use in ship's distance learning, and just-in-time refresher training.

As reduced manning and watch-routine models emerge for ship classes still on the drawing boards, SWOSCOLCOM has partnered with planners and designers to integrate revolutionary concepts into the future training plan, such as designing the TAO watchstation and watchstander of the future. This foresight design gives SWOs a full measure of responsibility in their evolution.

Editor's note: Mr. Monroe is the curriculum and instructional standards officer for the Surface Warfare Officers School in Newport, R.I. CAPT(Sel) Tom Abernethy, director of Department Head training, contributed to this article.

(Shannon Bosserman/USN)

PLEBE to ENSIGN

Grooming "Middies" for a Life at Sea

by LT Larry Ricafort

The idea of making decisions is often stressful. When the decision involves a career, the stakes are greater, indeed. As midshipmen at the U.S. Naval Academy, exposure to various communities in the naval services is a major part of the training process. Only a select number choose to make surface warfare their career in the Navy. It is a career steeped in tradition and constancy of purpose with the understanding, passed on from those who have served in grey hulls of the line, that ships are *still* the backbone of the fleet.

And it is that "call to the sea" that lures midshipmen to choose to become a surface warfare officer (SWO).

"I wasn't in the mind-set to be a Marine or be in aviation so the likely choice was surface," said former MIDN Maria Alsina, a member of the Class of 1999. "I knew I wanted to go surface since I came to the academy," adding that her exposure to the surface warfare community during summer cruises just confirmed them. "I had good experiences on my midshipman summer cruises," she said. "I was on an ***Arleigh Burke***-class [destroyer] while it was on deployment in the Mediterranean. It just confirmed what I already knew."

"Of all the communities, surface warfare seemed to fit me the best," said former MIDN David Ostwind, also from the 1999 graduation class. "I liked the surface warfare community because I wanted to be able to see the sun and liked being on the surface. It's an evolving community, and it offered me the opportunity to deal with people in a leadership position right away. If I became a pilot or a naval flight officer, it would have been a number of years before I would really work with people using a lot of the leadership skills provided by the academy."

Compared to the training pipelines of the other communities, surface warfare inducts junior officers almost immediately into their future roles as division officers. Each is eligible for assignment to a division of Sailors on board any ship in the service.

The first stop after commissioning is Surface Warfare Officers School—the Surface Navy's premiere school for officer training—in Newport, R.I. Here, newly commissioned ensigns can polish their skills in organization and watchstanding, whether it's on the bridge or down in the engineering plant. All are given specific, knowledge-related tools, such as damage control training, Aegis console familiarization and engineering systems recognition, allowing junior officers to more quickly assimilate the complexities of their first sea tour.

Skills for Life

While at the academy, midshipmen develop leadership skills that become as ingrained as wearing the uniform. "I think the academy taught me to work with people from different walks of life. Trying to get things accomplished as a team," said former MIDN Mary Katey Hays, also from the class of 1999, from Tampa, Fla. Her first division officer tour will be on board USS ***Milius*** (DDG 69), a guided-missile destroyer homeported in San Diego.

"The jobs at the academy have prepared me because of the emphasis on public speaking and being in front of people," said Ostwind. "Also, knowing that your decision is what counts and being responsible are traits that everyone has to have."

Throughout four years of indoctrination into military life while receiving a college education, midshipmen are constantly exposed to the public eye. From plebe summer to first-class year, a commitment to service is part of the oath they take on the very first day. In the end, the reasons why they came to the academy become the same ones they take to the fleet. "I wanted a challenge," said Alsina. "I wanted to do something that was hard,

> "I knew I wanted to go surface since I came to the academy."
> former MIDN Maria Alsina
> Class of 1999

and I knew that going to the academy would be challenging, frustrating, rewarding, all of it. I found more things than I could expect—good and bad. I came here to get an education for a price. I knew that I wanted to be an officer and to be in the military."

The Navy is currently facing a shortage of junior SWOs, reflecting the service-wide retention problem. "I did a naval science paper on junior officer SWOs leaving the Navy," said Alsina. "We know that department heads will be serving longer tours because of the [junior officer] shortage.

"I think that there definitely needs to be some kind of change for those who have graduated and those to come. I can definitely see the reasons why some of my classmates will be leaving. There are family issues. Am I going to be able to leave my children when I'm on deployment? How are they going to clear our schedules with both spouses in the military? What if our times away overlap?"

Midshipmen climb a sand dune in an attempt to secure the high ground during combat training on the shores of Little Creek Amphibious Base. The training is part of the summer cruise program. *(Todd P. Cichonowicz/USN)*

Although these challenges are on the horizon, changes will ensure that quality of life remains the Navy's highest priority for future forces. Today's operational schedules probably will differ greatly from tomorrow's because of reductions in unnecessary time at sea and administrative workloads. "It has been explained to us that your job is to get qualified and eventually take command, to learn how to run the ship on your own," said Ostwind. "While at the academy, you have your 'plebes' and 'youngsters' and the idea that you are responsible for them, but it's still a learning experience for the first-class [midshipmen]. I really think that being a division officer will give you the opportunity to learn and get qualified on the ship. You are also doing a real job at the same time."

A Life at Sea

The lure of the ocean and the unrivaled opportunities to see the world still attract men and women to the sea services. "I really want to go to the Mediterranean," said Ostwind. His first division officer tour will be on board USS ***Mitscher*** (DDG 57) homeported in Norfolk, Va. "Summer training cruises have given me a chance to travel to Korea and Japan. Now, I'm more interested in seeing the world than I was, and I want to see other areas that I haven't been to. I felt that the surface community would allow that while doing a job that's really productive. As a surface warfare officer, I feel like I can use my leadership skills to do something exciting and will pique my interest."

For some, the attraction is purely aesthetic. "I spent a lot of time on the water sailing on the sailing team everyday," said Alsina. "I never sailed before coming to the academy, and I realized that I enjoy being on the water. The fact that you spend a lot of time at sea has its hardships, but I'm looking forward to being able to drive a ship and conducting maneuvers. I've become familiar with it through sailing. It's an internal [motivating] factor. I also want to be able to see the sun everyday."

Of the things they look forward to after becoming commissioned officers, freedom from the rigors of midshipman life was the unequivocal response. Yet, they also spoke of anxieties, fears and motivations in joining the fleet. They know full well that there will be others looking up to them and following their example. "I'm looking forward to working with people, which is one of the reasons why I wanted to go SWO," said Alsina. "In less than a year, I'll be in the Gulf. In almost no time at all I'll be leading people. I expect that sort of leadership opportunity right away."

"I'm scared the way every new officer is scared about a new ship, a new skipper or the chief," said Hays. "I can't really make any judgments about surface warfare until I get out there and experience it first hand. I'm worried about it, but I'm also looking forward to it."

"My first real concern is that the SWO community is going to be tough when you first get there—having a division and trying to get your pin while having the additional duties," said Ostwind. "The reason I picked a small ship is that I want to put in the effort the first couple of years to get qualified. Stepping into the role as an officer after four years of people looking after me ... now, it's really my job to make sure that the division runs smoothly. In the back of my mind I'm stepping into a role where there's also a chief, who has probably been in for 20-plus years."

As an academy graduate facing her first division, many of Alsina's enlisted Sailors will be looking up to her for leadership. "I want them to know that I know what I'm doing. I want to be a good division officer. I've learned a lot from being a squad leader this past semester at the academy. I found myself asking a lot of questions that I really didn't need to ask, micromanaging. You just have to trust them. You have to have confidence in yourself and the people below you. I also want them to be confident in me. The only way that I think it's going to work is if I'm confident in myself."

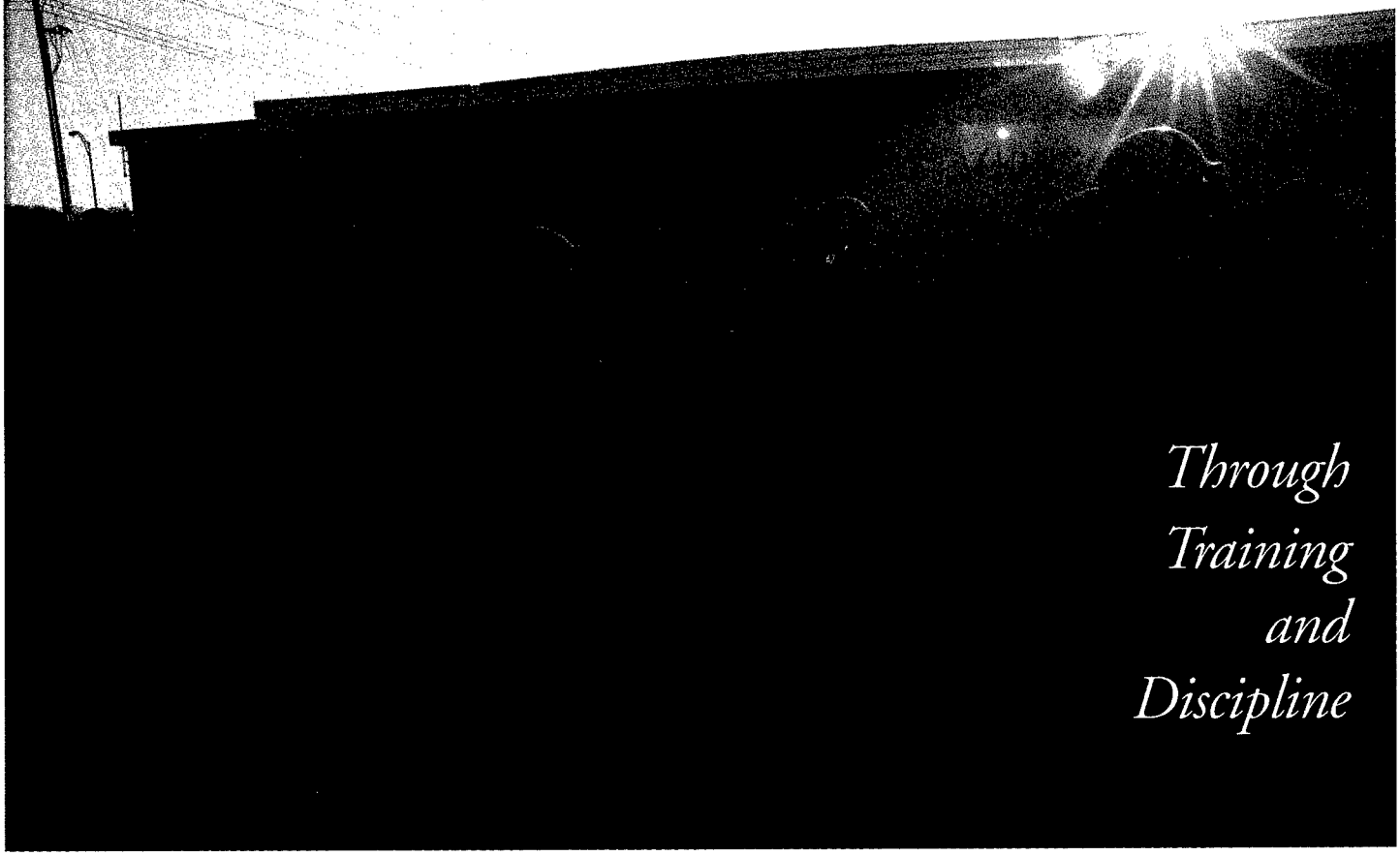
Alsina will begin classes at the division officer course in Newport in September and graduate in March 2000 to meet her ship on deployment in the Arabian Gulf. "I'm excited [at the prospect of becoming a] surface warfare officer. When I get to the ship, it will be on deployment, and I will really be in the thick of things. I'm also excited to meet the division and to be with them." Her first division-officer tour is on board USS ***Pearl Harbor*** (LSD 52), an amphibious dock-landing ship homeported in San Diego.

Long-term goals? "One of the good things about joining the surface warfare community is that you're allowed to make that decision," said Ostwind. "With all the officers that I've talked to, if you enjoy yourself and if you find that this is something you want to do, that's a reason to stay in."

Alsina's Navy goal is actually pretty simple, and one shared by some of her more experienced counterparts. "To take it one day at a time. Make it the best that it can be."

Editor's Note: MIDN Alsina, Ostwind and Hays were commissioned as ensigns during U.S. Naval Academy graduation/commissioning ceremonies in May.

STRENGTH



Through Training and Discipline

Motivation is the key to the student's success, along with patience and the positive instruction that he or she receives. *(USN)*

"Strength through training and discipline" is the motto of Service School Command (SSC), Great Lakes, Ill., where 75 percent of Surface Navy personnel *start* their technical training and continue their military training.

As a result of the Base Realignment and Closure Commission process, Service School Command, Great Lakes, absorbed the training functions provided by Service School Commands in San Diego and Orlando, Fla., as well as the Naval Damage Control Training Center, Philadelphia and Naval Training Center, Treasure Island, Calif.

Before the base closures in the late 1980s, manning at SSC was at its peak with more than 1,537 enlisted staff members and 43 officers to facilitate training. With a staff billeted for approximately 1,000 military and 500 civilians, SSC has an annual throughput of approximately 43,000 students (including fleet returnees). At any given time, 5,000 to 8,000 students are attending classes that vary in duration from two weeks to a year-and-a-half. The demand for Sailors to fill the fleet is large, and SSC runs up to three shifts of technical training (i.e., some students go to school from 11:00 p.m. to 7:00 a.m.) plus physical readiness and military training to meet the need. This tech-

Service School Command Great Lakes, Ill.

by Kerry V. Honore

nical and military training is part of a career-long continuum involving the Chief of Naval Education and Training (CNET) and fleet-delivered training so that every Sailor can achieve and sustain technical proficiency and continue to climb the leadership ladder.

The Lead School

Service School Command is the sole site of 16 "A" schools and a number of "C" schools, offering 112 courses. It is the largest, single technical-training facility in the Navy. It also is the CNET lead school for the Navy Military Training program, which continues the military training of new Sailors after they leave the Recruit Training Center.

"I believe the fleet should get a Sailor and a technician who is ready to serve his country," said Fire Controlman First Class (SW) Donn A. Dietz, an instructor at Combat Systems Schools Department (CSSD)—one of three training departments at SSC. The other two are Engineering Systems Schools Department (ESSD) and Training Department. "You cannot compromise the quality of instruction if you want your students to do the best they can," said Dietz. "There are a lot of things I like about being an instructor," said the 39-year-old petty officer. "An instructor has to be willing to work hard to earn the respect of his or her students to help them reach their potential." Currently, the fleet has a shortfall of 4,000 electronics technicians and fire controlmen.

Passing On Fleet Knowledge

At ESSD, the training is heavily focused on the operation and maintenance of hull, mechanical and electrical ship systems and equipment. In the Damage Controlman (DC) School you can hear the instructor on the "1MC" calling out "time plus nine," informing the students that zebra has been set throughout the ship (wet trainer). Then the message changes, "All hands brace for shock! Missile inbound, starboard side!" The lights go out and the message on the 1MC announces the impact as students scramble to check for flooding and watertight integrity.

Damage Controlman First Class (SW) Roger D. James instructs the DC students as they go through the wet trainer scenario for the first time. "We instruct students on how to perform the necessary techniques of damage control, ship stability, fire fighting, chemical/biological and radiological warfare defense and equipment repair. " I really enjoy training new students," said James, who will be transferring soon to the precommissioning unit USS ***Roosevelt*** (DDG 80). "This is the one place you really get to play with all the gear you use on board ship, but here you get to hone your skills and experiment with the equipment in a [controlled] environment. You cannot do that out in the fleet. I am also training the junior damage controlmen that will be stationed in ***Roosevelt*** with me. I like having the chance to train my own staff and know what they are capable of before I need them in an emergency.

"Being an instructor gives me the chance to pass my fleet knowledge to the students. I want to have the best DC squad behind me when I get ready to deploy. That's what I want for every ship in the fleet," said James. "My job here is to get them ready, teach them to act as a team, and enable them to face their fears. When fleet returnees are in a class, it makes my job easier because they know how to take charge of a damage control scene, and they help build students' confidence levels. Today the students are making their dry run on shoring exercises in the wet trainer, but tomorrow the theory and the practice of their studies becomes reality when the water is turned on and they feel the pressure of plugging the leaks," explained James.

The rigors of training do not stop at the DC trainer. The Apprenticeship Training Division of CSSD trains 11,000 seamen and airmen apprentices annually. Within 10 to 15 days, a new recruit is trained to become an able-bodied seaman or airman. The airman trainer migrates in July to its new home in Pensacola, Fla., where the students will have access to flight line, fire-fighting training, active

(Felix Garza/USN)

Transferring Skills to Sea

Service School Command readies the Sailor for the fleet, ensuring that every Sailor can achieve and sustain technical proficiency and continue to climb the leadership ladder.

runways and live aircraft. The seaman trainer will remain at SSC, where students receive hands-on and classroom training in underway replenishment, navigation, anchor windlass operations, damage control, 3-M maintenance, shipboard familiarization, watchstanding and visual signaling. "It is a lot of information for these students to digest in such a short time," said Boatswain's Mate First Class (SW) Tina M. Spenard, leading petty officer for the USS ***Whitehat*** trainer.

"Motivation," said Boatswain's Mate Chief (SW) Aaron Johnson, "is the key to the student's success, along with patience and the positive instruction that he or she receives." The seaman trainer can instruct 10 classes with a staff of 12 instructors.

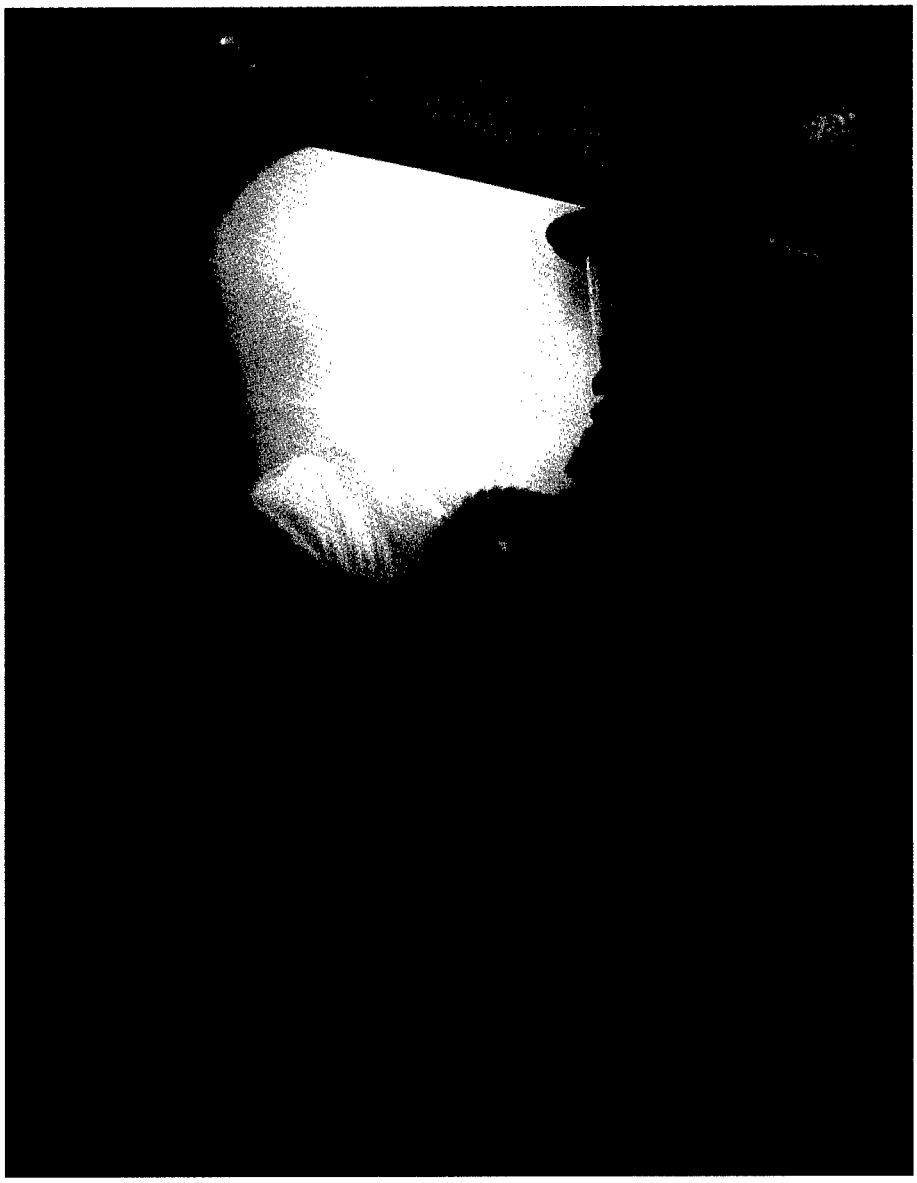
"It is no surprise attrition rates are low," said Boatswain's Mate Senior Chief (SW) Anthony R. Driver, leading chief petty officer. "Our instructing staff is excellent."

Transitioning to Virtual Training

"Students enjoy the 1,200 computer-based training lessons we have to offer in electronics, engineering and other related fields," said LT Robert L. Raines, director of New Technology. "The Learning Resource Centers (LRCs) have become so popular that we had to make more space in two schoolhouses to turn them into 'super LRC' sites. If the pilot program proves successful, there is an even more ambitious program being developed for the new barracks."

Plans for a "virtual LRC" are in the works for the new 800-series bachelor enlisted quarters (BEQ) now under construction. "Each room will have four network connections and will be networked to a central server that will become the heart of the largest LRC in the world," said Raines. "Later this year, we even plan to market our training software to the fleet on CD-ROM to help technicians refresh their skills." The LRCs have contributed to a 26-percent decrease in the student setback rate.

Most classes are taught in electronic classrooms, which help students realize their potential and ease course curriculum changes for the instructor. Most electronics and engineering courses are on CD-ROM, significantly reducing the stacks of technical manuals that once cluttered each student's desk. Paper schematics are used only during the troubleshooting labs to help the students understand the flow of the schematic circuits.



Service School Command is the Surface Navy's principal enlisted training site and is central to the Surface Navy's training vision for the smart ships and the legacy ships of the next century. *(USN)*

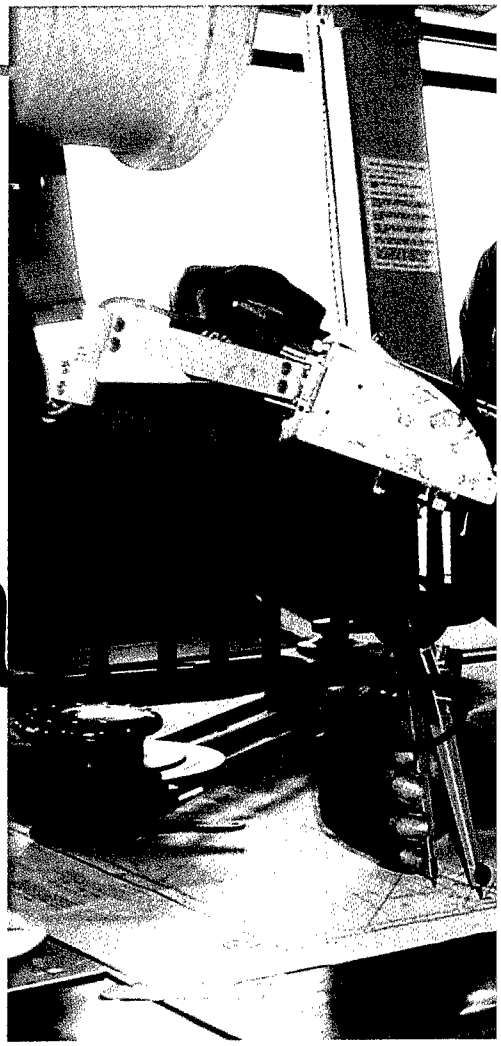
A pilot program at Torpedoman School uses electronic classrooms in the final three-week phase of the 10-week course to instruct students on surface vessel torpedo tubes. "We're trying to see how it works," said Torpedoman Second Class (SW) Daniel Mayfield. "We would like to get the system out to the fleet so students can use their notes on board ship." The same concept also is being used in the Interior Communications "A" School, where students have been using laptop computers since March 1998.

"Even though computers can assist students in their course of instruction," said Electronics Technician Chief (SW) Charles E. Brunsting, electronics technician radar-strand student supervisor. "They cannot make up for the number of instructors needed to give a course that 'human' touch, or to conduct daily marching drills, physical training, personnel inspections and field-day activities. These events are as much a part of developing a Sailor for naval life as learning to troubleshoot an electronic circuit."

"Shore schools will always be necessary for many aspects of initial qualification training with continuing training available electronically to operating units worldwide," said CAPT Richard Funke, SSC's commanding officer. "SSC is the Surface Navy's principal enlisted training site and is central to the Surface Navy's training vision for the smart ships and the legacy ships of the next century."

Editor's note: Mr. Honore is the public affairs officer for Service School Command, Great Lakes, Ill.

Sailors Tra



In an ideal world, commanding officers should be able to *pull* their training-plan support with point-and-click data, information and subject-matter expertise appropriate to the task. This concept, a tailored, training and information system *centered* on the ship, is contrary to the afloat training that has been traditionally *pushed* to ships. But today, there are too many technology-driven differences between individual ships and ship classes to continue pushing. Training administration is onerous and unfriendly. If more and more of less and less no longer will cut it, then revolutionary change is needed.

The Past

Train the Watchstanders

The recent Chief of Naval Operation's inter-deployment training cycle (IDTC) initiative focused on the profusion of documents directing commanding officers and operational commanders to achieve "readiness." Waterfront feedback has been clear for years that the micro-mandated path to achieve a *ready* condition via this inspection-centered process is administratively overwhelming to Sailors. Some examples:

- Each ship will have a minimum of three school graduates.
- Prelight-off training will precede the LOA.
- The engineering portion of the tailored ship training availability will include the following ...
- This course is offered three times per year as follows, etc.

Although satisfactory peace-time readiness levels have been achieved, the accumulated result has been a legacy, high-noise, suboptimized and *push*-driven training process that is too expensive, too time consuming, too mind numbing and too frustrating for our Sailors. Negative training readiness variables are well-known and include crew turnover, maintenance availability overruns, unrelated fiscal demands, weak leadership, poor preparation/schooling, accidents and bad luck.

The commanding officer and the mentoring ISIC (immediate superior in command) are the only people in a position to understand what is required to navigate their track to readiness. Therefore, *they* should be the ones to pull the training at a pace appropriate to existing conditions. They also are the ones responsible and accountable for results and, therefore, should be in the driver's seat. Most are eager for, and equal to, this challenge. After all, it is one of the reasons surface warriors aspire to command—"I know I could do better!" Most *would* do better if they were left alone to do it.

The Future

Sailors Training Sailors

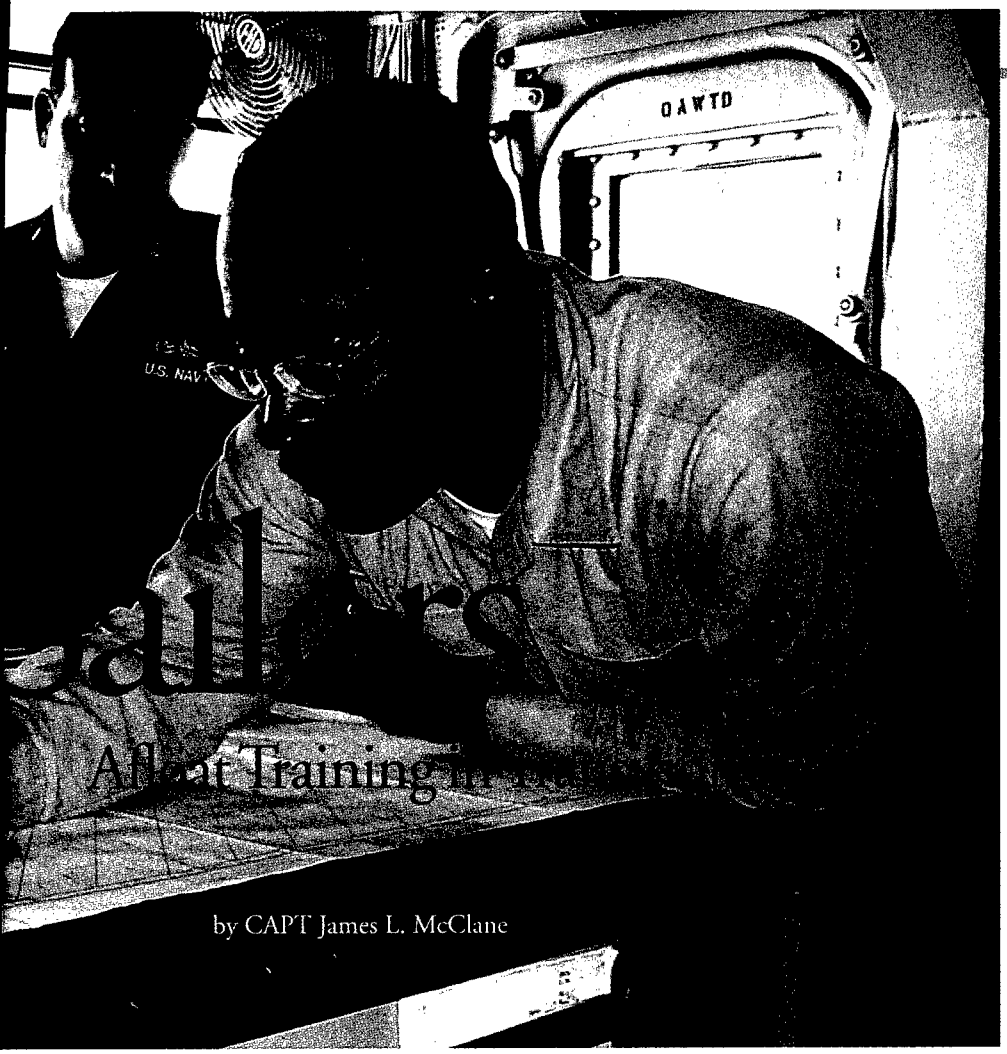
As VADM Hank Giffin, commander, Naval Surface Force, Atlantic, said, "We are giving command back to our commanding officers." In line with this empowerment philosophy, the Afloat Training Group, Atlantic, (ATGLANT) is eliminating the traditional, "shoe" inspection mentality and is focusing solely on a rational, value-added, training process that contributes directly to combat readiness. To this end, ATGLANT's mission statement has been rewritten to focus on training—*Sailors training Sailors.*

Gone are the words, *inspect, evaluate, certify* and *require*; all are words that ATG never had the authority to use, which led to a *we-they* relationship between ATG trainers and deckplate Sailors. In fact, after reviewing 350 documents, it was discovered that there is *no such thing* as an ATG requirement, although there are plenty of CNO, fleet and type commander requirements.

The perception comes from our legacy, adversarial interaction with the fleet. These action words belong to the CO and the ISIC. ATG provides training support.

The attributes of an effective, modern afloat training system should include:

- Objective-based training with performance assessment metrics
- Ship-, vice ATG-, centered processes (train the trainers)
- Knowledge driven (CO/ISIC self-assess ment)
- Pull methodology tailored for "just enough, just what's asked for"
- IT-21 compatible (no more paper)
- The best subject matter experts, not just the best available.



Sailors Afloat Training in the

by CAPT James L. McClane

(Aaron Lane/USN)

Implementating Change

Improving Quality of Life

The organizational challenges associated with an evolution to a more rational scheme are considerable. ATGLANT has been in a state of constant change since its inception more than five years ago; operational streamlining remains. The Norfolk area requires immediate tasking because more than 400 people from various locations in the Hampton Roads area are consolidated under one roof at the Deak Parsons Center.

Gone will be the individual training groups—Engineering Training Group, Fleet Training Group, Combat Systems Training Group, etc. In their places will be an integrated ATG focused on training the ship as a system. (Also gone are the blue and gold, ATG-emblazoned, inspector-style coveralls.) In place is a Sailor coming to train another Sailor. IT-21 compatibility and SIPRNET accessibility are givens. ATGLANT will be online and interactive. Increased emphasis on combat systems will be possible.

Training delivery is going to change completely as will the seniority of training liaisons. ATG no longer will deliver training in mandated one-week blocks for convenience of the trainers. Training services will be delivered daily, with stable, subject-matter expert teams specifically tailored to achieve the CO's training objectives for that day. Ships will deal with an online, regional, afloat training command using a common, force-wide, standard operating procedure. All training-related data and training/readiness models will be point-and-click, transparent and easily tailored for the ship by the training officer.

ATG *intrusiveness* will cease. ATG will train quickly to the satisfaction of the CO and ISIC, leaving the remaining time to the CO. Open, informal communication and early validation of requirements are encouraged; quality, long-range planning will be imperative. Good performance will be rewarded. Mistakes will simply be remediated. The *zero-defect mentality* will be eliminated.

Remember that training administration is not training. Assessments will be performance-based, not paper-based. Material condition must support training. Safety, mitigated by prudent risk, will continue to be paramount. Self-assessment based on ownership vice enforced compliance with standards is critical. (Self-assessment continues to be a serious weakness in some ships for numerous reasons. A valid current ship's maintenance project, an effective CO zone-inspection program, accurate eight o'clock reports and a routine divisional improvement program are time-proven keys to success.

The new, objective-based training (OBT, not to be confused with "on-board training" systems) methodology is being selectively introduced to the fleet almost simultaneously on both coasts, beginning with DD and DDG packages and expanding later. The mine warfare community in Ingleside, Texas, has been using OBT for some time. Soon, completion of those objectives will become the sole reporting criteria for training readiness. Permission has already been granted to excuse certain volunteer COs from Surface Force Training Manual (SURFTRAMAN)-mandated, basic phase requirements to use OBT.

Objective-based training fits hand-in-glove with the battle force tactical trainer concept. Also *implied* is a new way to objectively report readiness based on measurable performance—a step beyond the Cold War, fleet exercise publication structure. The Navy will benefit from OBT because relevant, performance-based metrics allow transition away from the output-based, subjective grading of events. Unit-level OBT is synchronous with ongoing Joint Mission-Essential Task Lists and Navy Mission-Essential Task Lists development as well as 2nd Fleet development of objective-based standards for intermediate, advanced-phase battle-group training. Meaningless adjective grades will disappear from use. Specific process-performance weaknesses can be isolated and focused by the CO for improvement. Tomorrow's completely integrated ship systems, with built-in training/simulation features, mandate a shift to OBT. DD 21, with a 95-person crew, cannot be traditionally push-trained.

The CNO's IDTC initiative provides a valuable vehicle for change and improves the quality of life for Sailors. The positive command climate for constructive change has been provided. This initiative is not about sidestepping standards—ships still must be safe and clean, and scheduled training and maintenance still must be accomplished. Attention must refocus on basic, warfighting principles. Commanding officers must be confident in their ships in *all* mission areas. It is the *how* that is changing—and that is the tough *cultural* challenge. The motto is not about doing better with less; it is about doing better ... period.

Editor's Note: CAPT McClane is Commander, Afloat Training Group, Atlantic.

Before there was "Smart Ship"

"Now, relieve the watch, relieve the wheel and the lookout; on deck, *section three*; engineers, *section five*."

Is this command the future or the past? USS ***Briscoe*** (DD 977) operated with unmanned engine rooms from 1979 through 1982 allowing the Engineering Department to stand *five*-section duty. Yet, the story begins on the first ship of the class.

USS ***Spruance*** (DD 963) ushered in the start of the gas turbine Navy. The potential to operate the plant from remote locations came with her use of automatic controls. Why, then, did we not take advantage of the technology and operate the ship the way the designers had intended—thus giving hard-working engineers a break from traditional three-section watches? There were many excuses and reasons, but the real answer seems to be that the collective "we" were too comfortable with doing business the way it always had been done. People were considered just a free commodity. Today, people are *not* a free commodity, and the desire to reduce the number of expensive billets in our combatant ships has led us to any number of technological innovations and has brought us, of late, to the Smart Ship program.

The irony in this initiative is that we did not need any new technology to *smartly* operate the engineering plant: It was already built into the ship. Of course, when ***Briscoe*** operated with an unmanned engine room, the idea wasn't to reduce the size of the crew but to give the existing crew a break.

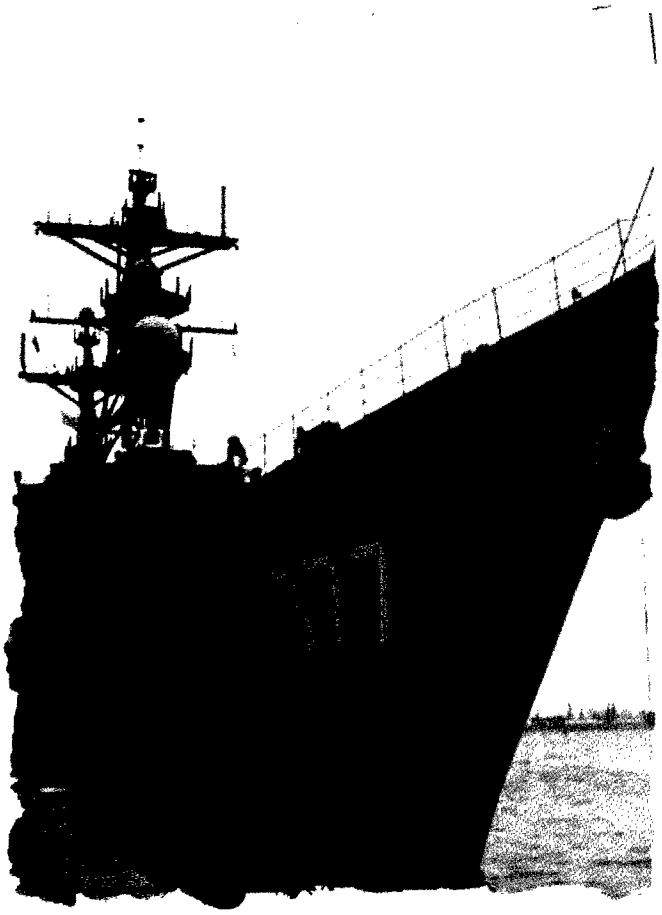
I took command of ***Briscoe*** in January 1979 while the ship was in her post-shakedown restricted availability (RAV). A light-off examination (LOE) was scheduled before the RAV ended, and I knew we also would have an operational propulsion plant examination (OPPE) before deployment. Shortly after I had taken command, my chief engineer, LT Hank Thomas, approached me with the idea of operating the plant unmanned. I must confess some reluctance because I, too, found it hard to break the old paradigm. As the commissioning executive officer of USS ***Kinkaid*** (DD 965), I was very familiar with this gas-turbine plant and had a good deal of confidence in what it could do, but I never expected to make a step quite this radical.

Hank's arguments finally won me over. We set about establishing a plan to operate ***Briscoe*** from the very first sea trial with *unmanned* engine rooms. The only equipment other than the standard outfit that we needed was amplifiers and speakers for the 2MC system in each main-engineering space. The plan had several aspects that we knew were critical to overall success:

- Establishing the correct watch team
- A good training and qualification program
- Alarms and automatic controls we could trust
- Winning over the crew to uphold the standards we set

The Engineering Watch Team

We established a five-person, standard engineering watch section, consisting of the engineering officer of the watch (EOOW), propulsion auxiliaries control console (PACC) operator, electrical propulsion control console (EPCC) operator and two rovers. The rovers could be dispatched by the EOOW to any part of the plant and maintain communication via the amplified 2MC system throughout the engineering plant. The rovers were *not* just messengers of the watch, but were highly qualified people because they were trusted to take initial actions for *any* engineering casualty. In fact, when we set the plan in motion, the rovers had to be second class petty officers or above.

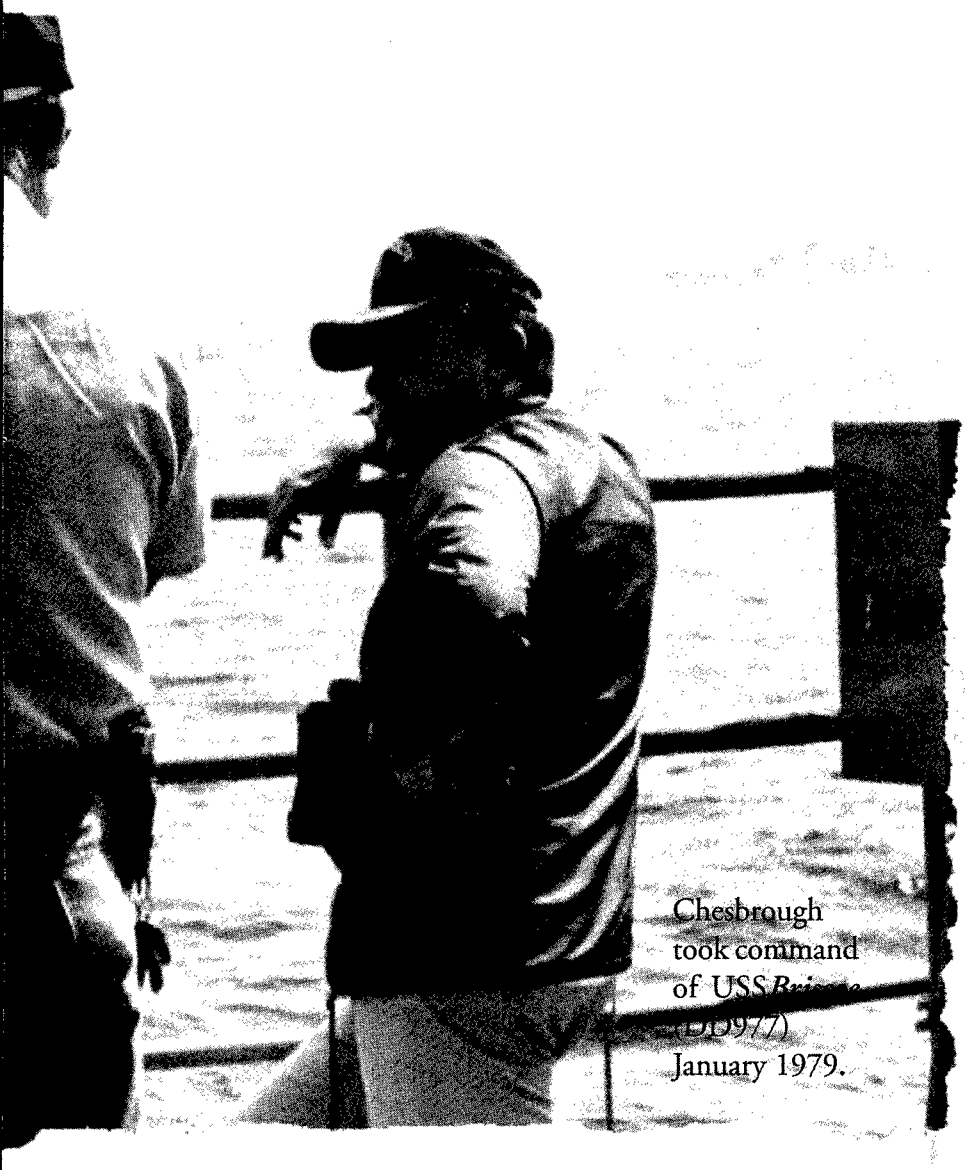


USS ***Briscoe*** (DD 977) operated with unmanned engine rooms from 1979 through 1982.

Training and Qualification Program

Training was key in making this concept work. Two hours of each workday during the RAV were dedicated to engineering training. Training consisted of general engineering knowledge and then specific watchstation training for those selected to be qualified. The training plan was geared to the LOE schedule because we planned to use the LOE as an "up" check on our watch bills and to validate the training we had conducted. Each member of the engineering watch had to pass written exams as well as an extensive, oral board. As commanding officer, I was on the oral boards for the EOOW as well as the PACC and EPCC operators, and continued to do so throughout my tour.

The standard for LOE's at this time was to present only two watch sections. ***Briscoe*** presented for examination four complete sections. We didn't yet have sufficient people to make our fifth team. The head of the propulsion examining board bought off on our watch bill. Several months later we also passed the OPPE.



Chesbrough took command of USS *Briscoe* (DD 977) January 1979.

Alarms and Automatic Controls

The automatic control systems in the ***Spruance***-class ships were always pretty good but you had to understand the parameters and appreciate the logic sequences. Hank and I did, and we trusted them. Alarms were a far different issue. Anybody who ever visited the central control station of one of these ships will remember seeing a considerable number of lights on the consoles seeming permanently lighted and will remember numerous alarms going off at apparently random times—sometimes repeatedly. The standard answer from the crew for this occurrence is "...spurious alarms Captain; nothing you can do about it..." The upshot was that not many watchstanders believed all the alarms and many times alarms were silenced with no action having been taken. Trust in the alarm system was highly suspect, particularly for the unmanned concept.

Our solution here was simple in concept, but difficult in execution. We declared that there was no such thing as a spurious alarm. Every time an alarm of any kind sounded, there was to be a standard, casualty-control response, which consisted of console actions as well as dispatching one of the rovers to personally determine if we had a casualty or not. It got to be very old very quickly for the rovers and they put the heat on the GSE's (gas turbine system technicians-electrical) and the console operators. As a result, every remote sensor and transducer in the engineering plant was tested and calibrated or fixed. Every set point for every sensor was verified as being within specs and every light on all consoles in the plant worked as advertised. ***Briscoe*** did not have spurious alarms; we had engineering console displays we could trust.

Winning Over the Crew

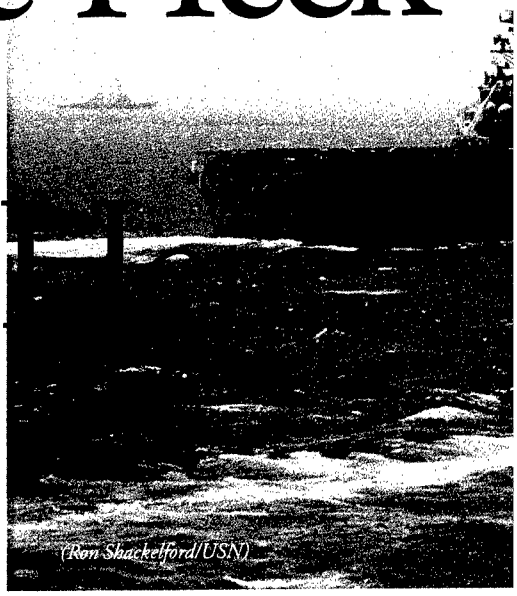
Because of a long, arduous training plan, this goal, at first, was not as easy as it might appear. The necessity to verify and validate every alarm in the plant, and to keep them that way, took extra, precious time. The standards we set were high, and we *demanded* the standards be kept. When we first went to sea with the concept, we only operated with three sections. Since all watchstanders in these three sections were second class or above, there were a number of third class petty officers and nonrated men who had a great deal of pressure to get going with their personal training and qualification plans.

The day we allowed the fourth watch section to come on line was a banner day, and it was then that Hank Thomas and I knew we had a winner. Since the deck watch teams remained in three sections, the engineering program became self-sustaining. All the hard work of training and qualification finally paid off, and the engineers knew that to keep their four-section watches they had to maintain the standards of qualification. They all helped each other and encouraged new men to qualify as quickly as possible. It was near the middle of 1980 when we passed the word on the 1MC, "...engineers, section five." The engineers were standing tall.

Hank Thomas and I continually evaluated the concept to make sure we were not fooling ourselves about the relative safety of operating this way. An incident occurred in one of our sister ships during this time. She had a major engine-room fire. We dissected the facts from the fire investigation and concluded that we were safer. We probably would have detected the fire sooner because we trusted our alarm system and always reacted to any indication of trouble. Many times during my command tour I was asked about operating this way. I could always confidently reply that I felt safer with unmanned engine rooms and a watch team that always reacted than I would with people needlessly standing watch in an engine room when the plant was being operated remotely at the central control station.

Editor's note: Before retiring, RADM Chesbrough was Oceanographer of the Navy.

So *How* The Heck Did I *Get* Here?


(Ron Shackelford/USN)

by Joe SWO

You are sitting in your stateroom in USS ***Battle Star*** (CG 01) and are pondering your wonderful fortune. You are the prospective operations officer and have just arrived to conduct a turnover with the incumbent officer. You stare at the freshly painted bulkheads and read the letter from your friend who graduated in the same department-head school class. He was not as fortunate as you and is slated to be the combat system officer in USS ***Always Broke*** (TATF 001), a fleet tug. And you wonder, how in the heck did I get here?

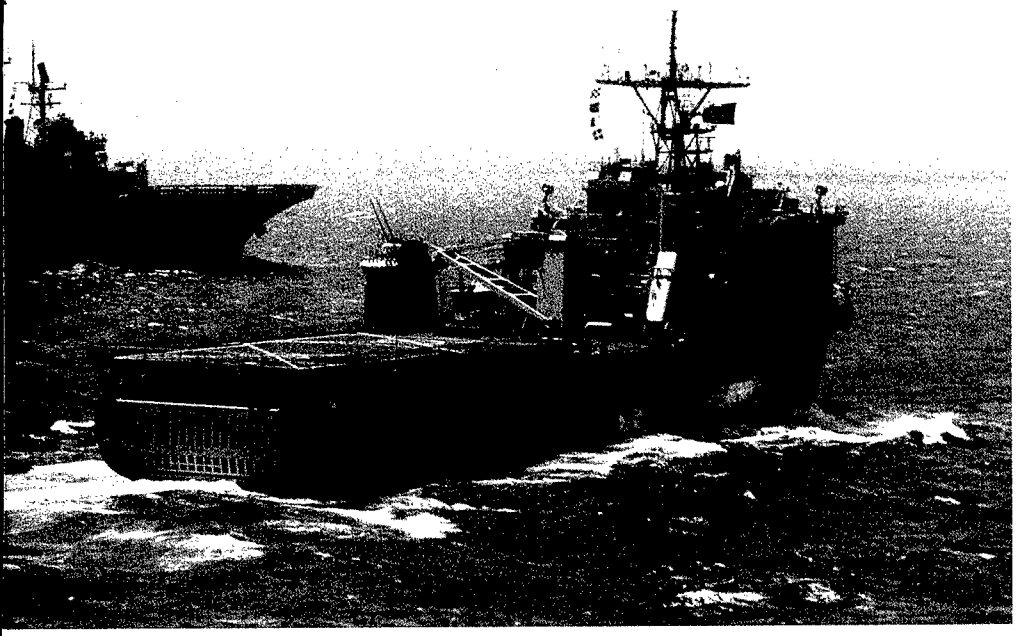
Obviously, the above situation is fictitious and is a product of my overactive imagination—and no offense meant against our vital Sailors aboard fleet tugs—but it does bring up an interesting question: How does the assignment, or "slating" process, work? The "slate" for Surface Warfare Officers is that process that assigns an officer going to sea duty to their next ship, whether this is at the second-tour division officer level or at the commander and major command levels. It is a process filled with dread and worry for most officers, since they are at the hands of those merciless detailers who will completely disregard any duty preference sheet submitted and "slate" you to the most feared and hated job you can imagine. At least this is the view held by a majority of the fleet. This article reveals the "Secret of the Slate!" So, for each level that receives a slate, here is how the system works...

SECOND-TOUR DIVISION OFFICER SLATING: This is the first time a Surface Warfare Officer will be slated using at-sea performance as the basis. First-tour division officers, who are approximately nine months from their projected rotation date (PRD), are looked at for the following qualifications: officer of the deck underway (OOD), surface warfare officer (SWO), and engineering officer of the watch (EOOW). Since most officers will only have one or two fitness reports before this slating, the determining factor for who is slated first will often come down to the number of qualifications received in the first division officer tour. The more qualifications, the higher you are on the list of officers to be slated. If you have all your qualifications, and a great record, you will be slated first and therefore have more options when slated.

The major point here is that this is a competitive process, and most officers want the same types of billets. If you haven't received an EOOW qualification, you will probably go to a ship and billet where you *can* qualify. So, if you ask for a special boat unit, you will probably not be assigned there since there is no EOOW qualification on a 20HP Johnson outboard motor. What happens if you tell the detailer you must go to the DDG fire-control officer billet in Everett, Wash.? There are no DDG-class ships in Everett, so you have just given away a choice.

This is a good time to bring up some "slating secrets." The first secret is to do your homework and know what you are asking for. Just as there is no patrol craft in Mayport, there is no easy manner in which to receive an EOOW qualification while serving in an assault-craft unit. Don't give away your top choice if you won't, or can't, be sent there, anyway.

The next secret is to let your detailer know what you want and give him or her some



choices. If you list one choice, and it is not available, the big, blank area on the duty preference card means the detailer will take a best guess and assign you to where he needs you. To avoid having the dreaded, evil one "fill in the blank," think long and hard and provide some other possible slating choices. The more information available to the detailer at slating time, the better your chances of receiving an assignment close to what you asked for.

First-Tour Department Head Slating: Before arriving at department-head (DH) school you will be slated to your first, department-head billet. Unlike your previous slate as a division officer you now have multiple at-sea fitness reports (FITREPs). These fitness reports form the basis of your slating to your first DH tour. Your FITREPs are reviewed by the detailer and briefed before an in-house ranking board, which is made up of post-CO, post-XO and post-DH officers who will rank your record with a numerical grade. These grades are then averaged, and you receive a relative ranking, compared to the officers who will be attending DH school with you. The officer with the highest ranking is slated first, followed by the next officer, and so forth, until all the officers are slated.

Shore command fitness reports are not used. Why? Because the first shore tour can be in a wide variety of greatly differing billets, making them difficult to compare. Which job is harder? The vice-president's aide, the student at post-graduate school, the instructor at Annapolis or SWOS, or the officer-in-charge of piers and warehouses in Fiji? See the problem?

At-sea performance is what counts! For the most part, it is not where you were, but how you did the job. Tiebreakers between two officers with similar records include a tactical action officer (TAO) qualification or having served as a department head while still a division officer. These officers are normally singled out by their commands, and by the detailers, as the top junior officer in that command.

Time for another not so secret, secret: The more flexible you are in your choice of homeports, the more likely you are to receive your top choice of billets. If you just have to go back to San Diego because your spouse's mother lives there, your detailer will try to get you there, but your choice of billets will be limited, since you are limiting yourself to only the billets in that port at that time. Remember, in a detailer's point of view, meeting 80 percent of your preferences is not a bad assignment on his part. They may try for 100 percent, but look at how many DDG operations officers there are in San Diego (few), and how many officers want such a billet (many). Figure the odds for yourself.

Again, the more information you provide to the detailer, the more likely you are to receive the orders that are at least *close* to what you desire in your heart of hearts. Perhaps the "real" secret is to be realistic and to have your priorities straight in your own mind. If you understand how the process works you will have fewer opportunities to be disappointed. If you walk into the diner and ask for lobster you may be disappointed, but who knows, that steak may be even better.

Second-Tour Department Head Slating: At this point in your career the slating process begins to change. If you were a chief engineer on your first DH tour, you will probably be assigned to a second, engineering-type tour for your second tour. If you were an amphibious-ship topside officer on your first tour, you will most likely stay in that community for your next tour. Specialization of skills, as well as your reputation and performance at sea, drive your slating priority. If you have performed well at sea up to this point, you will more likely receive your choice of assignment in your area of expertise. The detailer will slate you based on your expertise, your preferences and the billets available at the time of your slating. Once again, this is a competitive slate based upon your at-sea fitness reports. The hard facts are the first-tour department head who is the "early promote" of three officers will receive a greater choice in billets than the officer who is the "promotable" of the same three officers.

Executive Officer Slating: Timing, timing, timing! The major inputs to the XO slate, in order, are the amount of time you have remaining in your career before your first major look for commander command (career timing), the availability of XO billets, and finally, your area of expertise. The detailer will try to get every officer into an XO billet before that officer's record appears before the commander command selection board. Other factors also may apply to this slate, such as

the experience and expertise. How does it all happen?

Before this slating, the detailer will normally hear conversations such as, "If you don't assign me to the DD 21 new construction, with the latest bridge-to-bridge radio, I'll never select for commander command!" But understand that the detailer's goal is to get you selected for commander command of *any* ship, not a specific ship. The slate at this point is more subjective, since all these officers have selected for XO by the executive officer selection board, and these officers will have great records. The key factor ... *timing*. If you are not in the XO billet with a FITREP stating you are the greatest XO, and will be the greatest CO since Noah in the Ark, you will have difficulties selecting for commander command.

COMMANDER COMMAND SLATING AND BEYOND: Alright! Everything up to this point was your "first career." Your first career was the period through your selection for commander command when there were a large number of officers slated to a large number of billets. Your "second career" begins with slating for commander command and continues on through the remainder of your career. Now there are fewer officers for fewer billets, and most are known by reputation. Here we go again—more rules, more changes.

The most vital piece of information to remember at this point is that there are only 80 to 85 officers chosen each year for commander command and these officers have very strong records. Where you are slated now becomes a function of a nebulous term known as "service reputation!" Service reputation is a combination of factors that will drive your entire second career.

Service reputation combines your performance, who you have worked for and who you have worked with. The better your performance and reputation, the better your slates and follow-on assignments. Service reputation plus timing for selection for captain and major command are both included in your slating process.

In essence:

Timing—Can you fill the billet and still have a FITREP before selection for captain?

Luck—Is the billet you want, and are qualified for, available?

Who you know—Have you created a service reputation with your contemporaries and superiors so you can be slated to where you wish to go?

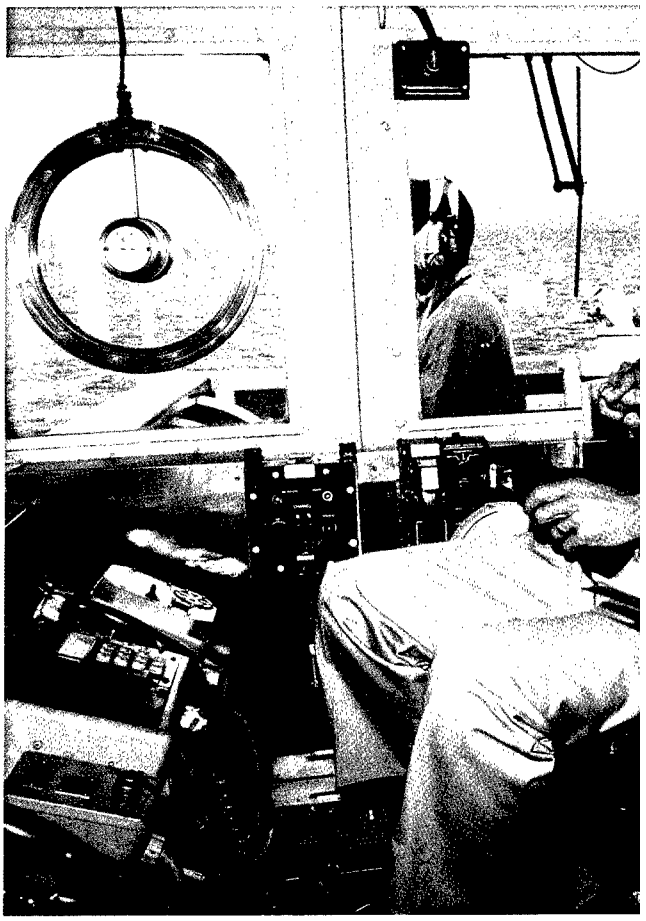
Gasp! Someone actually said that "whom you know" has an effect on your career! Did I just tell all junior officers that they must be a flag aide to succeed? No! Because in equal doses, there is the concept of "*how* you are known!" Were you the chief engineer who sent his best gas-turbine tech to the ship with generator troubles? Or were you the guy who laughed at your fellow chief engineer on the other ship and looked for an excuse to grab the glory yourself? Were you the XO who conned his ship alongside the burning vessel to take off the crew? Or did you stand on the other bridge wing? Reputation works both ways. Who you know only works if you are known to be good at what you do, and are respected within the surface community. First, be good. Being known will come.

One inevitable result of a shrinking Navy is that, as the number of officers on active duty steadily declines, service reputation will begin to be felt to a greater extent at the more junior ranks, and on slates earlier in an officer's career.

IN A NUTSHELL FOR ALL SLATING: Perhaps the most apt analogy of the whole process is that you just get back from a deployment and find yourself needing a new car to get to the ship every morning. There are so many choices, and you start off with high expectations. If you are from the "eastern establishment" you might want the Mercedes sedan (CG 47?), a classic with all the buttons, on-board map computer and power everything. Or you are from California and want the Ferrari (DDG 51?) in bright red that will turn heads on every corner. Or you are from Tennessee, perhaps here in Millington, and your transportation dream is a big pickup (LSD 41?) for hauling everything you can think of. With these dreams of the perfect vehicle, you set off to the new car lots, and there you meet the car dealer, your detailer.

The first thing the car dealer/detailer is going to do is determine what you can afford, which equates to looking at your record. So the dealer/detailer looks you over. Can you afford the Mercedes, or are you the Chevy type? Both will meet your needs and get you to work, but what can you afford? Perhaps you have worked hard and saved so you can buy the Mercedes on your own? Perhaps you have someone to co-sign the loan, like a rich Dad? Or perhaps you can only afford the Yugo in the back of the lot because you partied away your savings.

The dealer/detailer looks at your checkbook and tells you that you can't afford the new Mercedes, but how about this slightly used sedan with lots of great miles left. Do you yell and scream and tell him fine, Dad will buy me a Mercedes, anyway? Or, do you take the sedan and shine it up so it's the best looking car in the parking lot at work? Both may work, but there is a cautionary note: If you can't pay for the gas or the high-maintenance costs, and you get Dad to buy the Mercedes regardless, you will probably run out of gas or break down, and that will be the end of you, anyway.



(David W. Hanselman/USN)

Finally, do you trust the dealer/detailer when he tells you the sedan is a low-mileage cream puff? Does that new car dealer have a good reputation? Have others been happy with what they have bought from him or are all car dealers/detailers just out to "take" you? The smart person (you) would go into the situation with plenty of knowledge about the goal, and what he could best afford. What will you do?

Of course, on occasion, like the com-

mander command slate, you must conduct a reality check. As you are trying to decide between the Mercedes and the Chevy, or the blue and the red car, remember that there are more than 500 other officers who are riding the bus to work because they never made it to the dealer's lot. Do you know what they call the CO of the oldest and smallest ship in the Navy? CAPTAIN! This tidbit may sound like a dreaded detailer actually put something into this article, but

we all occasionally need a reminder that it is the job of going to sea in ships that is the greatest thing we do. We are professional mariners and for us going to sea is more fun than any PowerPoint presentation you will give in the E-ring of the Pentagon because you were the first CO/XO/DH or division officer in USS ***First New Ship***. Just a thought for all of you budding Nimitzes who call Dad at the first sign of "slate anxiety."

Tough thoughts and analogy for some. Well I tried ... Wait! I hear footsteps outside my puka! If I can only hit "send" before they take me...

TRAINING CONTINUUM

Developing The Next Generation Of Sailors

Service School Command at Naval Training Center, Great Lakes, Ill., receives a majority of boot camp graduates for follow-on training in either an "A" School or apprentice training. And it is here where the young men and women begin their "culturization process" before joining our ranks. Technical training is the easiest part of our jobs. Most young Sailors enlisted on the promise of superior training in fields such as advanced computer electronics or gas turbine engines and are motivated in academics. Don't misconstrue when we say technical training is easy. As course-curriculum model-managers of most of the "A" and "C" Schools, we are tasked to coordinate with the fleet, surface warfare training requirements and in-process reviews (IPR) to provide *on-target* training, which meets the experience level expected of an apprentice technician. These efforts are challenged by resource constraints identical to those experienced in the fleet. The difficult, and often unquantifiable, part of the Sailor's development process lies in the passing on of culture, self-discipline and the ethical framework that rounds out the Sailor As Socrates was to the Athenians, the new generation of Sailor is the modern "gadfly" challenging our system and leaders in a renaissance style with the perpetual question, "Who is wiser than I?" This has always been part of the American tradition, a product of our revolutionary birth. Today's new Sailors want the same things from their experience in the Navy that we, *old salts*, wanted—the opportunity to learn, to lead, to be part of the team. But American society has changed in many ways over the last 30 years, presenting new challenges in helping our new Sailors achieve those goals. Clearly the challenge to us as leaders and educators is to engage them in a partnership for success.

by QMCM(SW) Francis P. Morreale, HTCM(SW) Gregg A. Peterson and MRCM(SW) James R. Gray

The brunt of this process of education falls squarely on the shoulders of our front-line petty officers. In the fleet and squadrons, it falls on the work-center supervisors, while here at service school it falls on the instructors and advisors. In all cases, these petty officers balance accomplishing mission with subordinate development and emergent tasking. With our perspectives fresh from the fleet and without the focal point of own ship's operations, it is difficult, at best, to teach the abstract that inspires *esprit de corps*. As leaders, we cannot escape the charge of training our reliefs, and heightened emphasis must be placed on developing these front-line petty officers. Technical proficiency continues to be an excellent "letter of introduction" but is a limited part of the equation. Depth in understanding the human condition, in this age of redefinement is a dynamic process. As policy makers attempt to shape the Navy of the next millennium in terms of resource and mission, we who walk the deckplates now collectively share responsibility in shaping the young Sailors who will be our legacy.

Editor's note: Master Chiefs Morreale, Peterson and Gray are department master chiefs for Service School Command, Great Lakes, Ill.

SITREP

Advancement and Promotion Information a Keystroke away

One of the most important concerns of officer and enlisted personnel is career progression. Was I selected for advancement? Did I pass the test? Who is on my selection board?

Personnel Command (NPC) officials have made the answers to these questions, and many others, available on the Internet at *www.bupers.navy.mil.*

Log on to the website and then click on Selection Boards. Once you are in the Selection Boards section, all of the PERS-8 pages on officer promotions, appointments and enlisted advancements are just a click away.

Sailors who have been selected for advancement from the most recent E-4/5/6 exams are listed, as are Sailors selected for promotion and advancement by the most recent board. Even the board members are listed. Selection board information for E-7 to O-6 personnel also is available. Officers can determine promotion phasing plans by opening the results message (also included in the website) and determining their seniority number, then take that information to the phasing plan section and match it against the month that will conduct that promotion.

It is also possible to determine where selection board results are in the chop chain after a board has adjourned and before results are reported.

Navy officials urge Sailors to take advantage of the information available on the Navy Personnel Command website and save frequently accessed pages to their Internet "favorites" list—making the answers to thousands of questions just a keystroke away—*Michael McLellan, NAVPERSCOM Public Affairs*

Contracting Shipboard Preservation Expected to Improve Quality of Life

Naval Sea Systems Command (NAVSEA), in a joint venture with the Pacific and Atlantic Fleets, has embarked on a demonstration program to fund ship preservation teams beginning this fall.

Six ships, three on each coast, have been selected as candidate ships for the demonstration: USS ***Anchorage*** (LSD 36), USS ***Duluth*** (LPD 6) and USS ***Tarawa*** (LHA 1) from Amphibious Group 3 in the Pacific Fleet and USS ***Arleigh Burke*** (DDG 51), USS ***Carr*** (FFG 52) and USS ***Stump*** (DD 978) from Destroyer Squadron 2 in the Atlantic Fleet.

"This is great news for our Sailors," said VADM Henry C. Giffin III, commander, Naval Surface Force, U.S. Atlantic Fleet. "Freed from routine work, Sailors can spend more time on improving their combat readiness, studying for advancement or just going home earlier in port to be with their families and friends."

The program's goal is to improve Sailors' quality of life in port. The demonstration will measure the value to the maintenance community of qualified contractors performing all organizational-level preservation and corrosion maintenance—chipping and painting—after a ship returns from deployment or exercises.

The initiative also is expected to improve long-term ship material condition by employing uniform quality assurance standards, as well as utilizing high-tech paints and materials that prevent corrosion and improve solar reflectivity. This will eventually reduce maintenance requirements at the intermediate and depot level, saving scarce maintenance funds. Additionally, it will improve ships' combat readiness by reducing maintenance time.

"This effort is a win for our Sailors and a win for fleet maintenance," said RADM James L. Taylor, deputy chief of staff for Fleet Maintenance, U.S. Pacific Fleet. "Our Sailors can make better use of their time, and the new paint technologies we are using will enable us to wait years longer before painting the same areas again. This [expectancy] will free up millions of dollars in future years for other needed maintenance."

"I'm pressing for us to invest more in treating Sailors and Marines as valued professionals, with time to train, equipped with the tools and supplies to do their jobs in the most efficient way, in decent environments, with enough time to produce work that's worthy of pride—not just to be playing catch-up," said Secretary of the Navy Richard Danzig.—*Compiled from public affairs sources.*

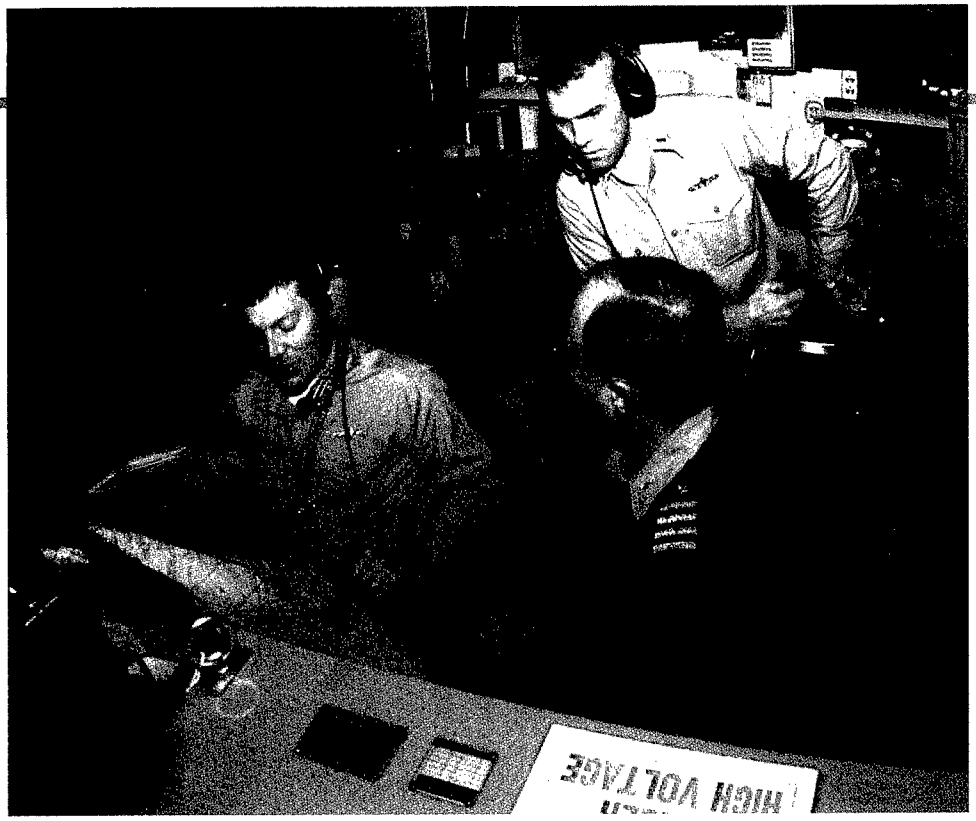
Tortuga Hoists SWO Pennant

A stiff breeze coming in off the Elizabeth River catches the pennant, snapping it like a whip on its tight sheet. The sun is just starting to cast her shadows, as morning colors echo off the steel hull. The image on the pennant, common to the Surface Navy, screened in gold on the blue cloth, is a Surface Warfare Officer (SWO) pin. What is uncommon is that it flies from the mast of USS ***Tortuga*** (LSD 46), the first ship of Commander, Amphibious Group Two, to have earned the newly created award.

"The pennant signifies that every member of the wardroom that is SWO eligible has received the pin within a prescribed amount of time," said CDR Jay Burdon, the commanding officer. "To fly the pennant shows that we have fulfilled those qualifications, and that is something to be very proud of."

According to the instruction, issued jointly by surface forces Atlantic and Pacific, the warrior spirit pennants are offered for both the Surface Warfare Officer and Enlisted Surface Warfare Specialist (ESWS) programs. The purpose of this recognition program is to display "warrior spirit" and build on the *esprit de corps* of surface units by proudly flying a pennant in recognition of that command's successful warfare programs.

A subsequent message released by Commander, Naval Surface Force, Atlantic, maintains that the intention, at least in part, of both the ESWS and SWO warrior spirit programs, is to keep units focused on combat readiness through the warfare qualification process.—*JO2 J.D. Walter, Navy News Service*



CAPT Robert D. Jenkins III, commanding officer, USS ***Philippine Sea*** (CG 58), with his tactical action officer, LCDR Pete Winter, and combat information center watch officer, LTJG Chris Reardon, discusses his ship's position in relation to other surface contacts. *(Renso Amariz/USN)*

Changes of Command

SURFLANT

USS ***Ashland*** (LSD 48)
CDR Jorge Sierra relieved
CDR Antony O. Heimer

USS ***Avenger*** (MCM 1)
LCDR David A. Chase relieved
LCDR Stephen C. Shoen

USS ***Inchon*** (MCS 12)
CAPT Daniel N. Hartwell relieved
CAPT Richard K. Gallagher

USS ***Osprey*** (MHC 51)
LCDR Paul J. Severs relieved
LCDR Robert B. Stewart

SURFPAC

Commander, Destroyer Squadron 15
CAPT James W. Stevenson Jr. relieved
CAPT Jerry F. Ferguson

USS ***Decatur*** (DDG 73)
CDR Peter A. Gumataotao relieved
CDR Michael G. Knollman

USS ***Duluth*** (LPD 6)
CDR Glenn M. Brunner relieved
CDR Paul A. Cruz

USS ***Elliot*** (DD 967)
CDR Steven P. DeJardins relieved
CDR Steven R. Strausser

USS ***John A. Moore*** (FFG 19)
CDR Howard L. Stone relieved
CDR Joseph R. Martin

USS ***Port Royal*** (CG 73)
CAPT Roger C. Easton Jr. relieved
CAPT Robert T. Moeller

USS ***Shiloh*** (CG 67)
CAPT Robert D. Liggett relieved
CAPT Steven J. Busch

Monterey Bay Symposium On Target

In May, the Monterey Bay Chapter of the Surface Navy Association (SNA) hosted a one-day symposium for Surface Warfare Officers. Nearly 200 SWOs, primarily students at the Naval Postgraduate School, participated. Through extensive briefings and open-forum meetings, junior officers could take advantage of close contact with Navy leadership.

VADM Edward Moore Jr., COMNAVSURFPAC, reviewed the latest inter-deployment training cycle changes and initiatives, while VADM Henry C. Giffin, COMNAVSURFLANT, highlighted the "revolution" to reduce the administrative burden on ships' crews. Giffin emphasized these initiatives will succeed only if "we believe in our people" and "put command back in the hands of commanding officers." RADM Michael G. Mullen, director, Surface Warfare Division, (OPNAV N86) addressed "people" issues and, later, presented a comprehensive Surface Warfare Vision [*SWM, January/February 1999*].

A key point emphasized by Mullen and several other flag officers attending the symposium was a push to "pick the best officers, not the most perfect record. ... No more zero-defect mentality." Calling surface warfare the "backbone of the Navy," he detailed the primary mission areas for which the community is responsible, from maritime dominance to expeditionary warfare.

RADM William W Cobb, program executive officer for Theater Air Defense and Surface Combatants and the assistant secretary of the Navy for Research, Development and Acquisition, followed by illustrating that theater ballistic missile defense "equals" national missile defense and is "the Surface Navy's future."

RADM Jose L. Betancourt, commander, Mine Warfare Command, discussed the mainstreaming of mine warfare and delivered an assessment of our mine warfare capabilities. Several other briefings were devoted to discussions on SWO continuation pay and the current, and future, state of SWOS Department Head School—where many in the audience were headed after earning their postgraduate degrees.

SNA has supported surface warriors for more than a decade through symposiums, seminars, award and recognition ceremonies, and other events of unique interest and value to fleet Sailors. For more information on the Surface Navy Association and future symposia, visit the SNA web site at ***www.navysna.org.***

USS *Rushmore* Demonstrates Smart Ship System

USS ***Rushmore*** (LSD 47) deployed in June 1999 with a demonstration version of the Navy Standard Integrated Personnel System (NSIPS)/Electronic Field Service Record (EFSR) system installed and operational. ***Rushmore*** was chosen as the first site to demonstrate the use of a *paperless* service record because she will use the system under *at-sea* operational conditions. Additionally, ***Rushmore*** is considered a smart ship and has other manpower-saving systems on board and is being studied for input into the manning of LPD 17. The users on board ***Rushmore*** received training on the NSIPS/EFSR system while the ship was previously underway. All of the Sailors' field service records were scanned into the NSIPS/EFSR shipboard local database prior to training.

Authorized users now can access service records across the unclassified LAN (local area network). The CO, XO, command career counselor (CCC), department heads and disbursing clerks have *view-only* access to the field service records. The personnelmen and yeomen currently maintaining field service records are authorized to make changes to the records with approval authority limited to the appropriate supervisors.

Features of the NSIPS/EFSR system include the ability for multiple users to access a service record simultaneously, the ability to view the service record without having to go to the Personnel Office (or Ship's Office for officer records), reducing data entry by prefilling electronic forms with available data, enhanced security and an automated workflow for routing service record pages for approval. Other features include the ability to make global entries, which allows a clerk to enter the data for an award such as the "Battle E," Navy Unit Commendation or Meritorious Unit Commendation once and have it post to all eligible members' service records automatically.—*Navy News Service*

Eliminating Unnecessary Paperwork

Inter-Deployment Training Cycle Getting Better

Positive effects from the Fleet Review Board's (FRB) efforts to eliminate unnecessary workload associated with the Inter-Deployment Training Cycle are already being enjoyed by sea-going Sailors.

"The biggest benefit is spending more time with family and friends," said Dallas-native Operations Specialist Second Class Dwayne E. Thomas about the new eight-section duty rotation aboard USS ***Essex*** (LHD 2). "Also, you don't have weekend duty as often, which is a huge plus. You do take on more responsibility, but it's worth it."

Intelligence Specialist Second Class Derrick A. Thomas, from Virginia Beach, Va., agrees. In addition to extra time with family, he is seeing an unexpected benefit. "By having less people in a duty section, you get trained in more things," he said. "Then, when you go to sign up for ESWS and EAWS you already have [many of] those requirements knocked out. Being trained well is a prerequisite to being an outstanding Sailor."

CAPT Gary M. Erickson, chief of staff, Commander, Naval Surface Force, Pacific, said that a different approach is being taken to train fleet Sailors. "We're looking at the ship's strengths and weaknesses. Where ships are strong, we didn't need to conduct training in that area. We would only focus on the ship's weaknesses. We formulate a package that is tailored to each individual ship. That [philosophy], in itself, creates a lot of efficiency, instead of having a cookie-cutter approach."

This individualistic approach is showing up in more than just training. One of the biggest changes to hit the waterfront is the elimination of the propulsion examining board. In fact, inspections and assist visits have been cut back from 153 to 71.

And continued input from the fleet is welcome. "People can make inputs either via chain of command to the FRB task force, or, if they would like to make a direct input to the FRB, the FRB has a classified and unclassified e-mail address," said Master Chief Petty Officer Tom B. Hefty, Fleet Master Chief, U.S. Atlantic Fleet. "We really look for that input. We have a full-time task force that's headed up by very senior people who look at everything that comes into those addresses."

Sailors can provide their input by sending e-mail to *robertsda@clf.navy.mil.* Also, additional information can be obtained from the Pacific Fleet web site *www.cpf.navy.mil.*—*JO3 Diann Paternoster, SURFPAC Public Affairs*

Surface Warfare

RADM Michael G. Mullen, USN
Director, Surface Warfare Division

Editor
Nicholas Sabalos Jr.
CDR, USNR(Ret.)

Assistant Editor
Robert F. James

Military Editor
LT Lawrence N. Ricafort, USN

Design Editor
JOC(AW) Gloria L. Montgomery, USN

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Surface Warfare Magazine
Crystal Plaza 5, Suite 120
2211 South Clark Place
Arlington, VA 22202-3739

Editorial: Address editorial inquiries to:

Phone: (703) 602-7823
DSN: 332-7823
FAX: (703) 602-7822

SURFWARMAG@NAVSEA.NAVY.MIL

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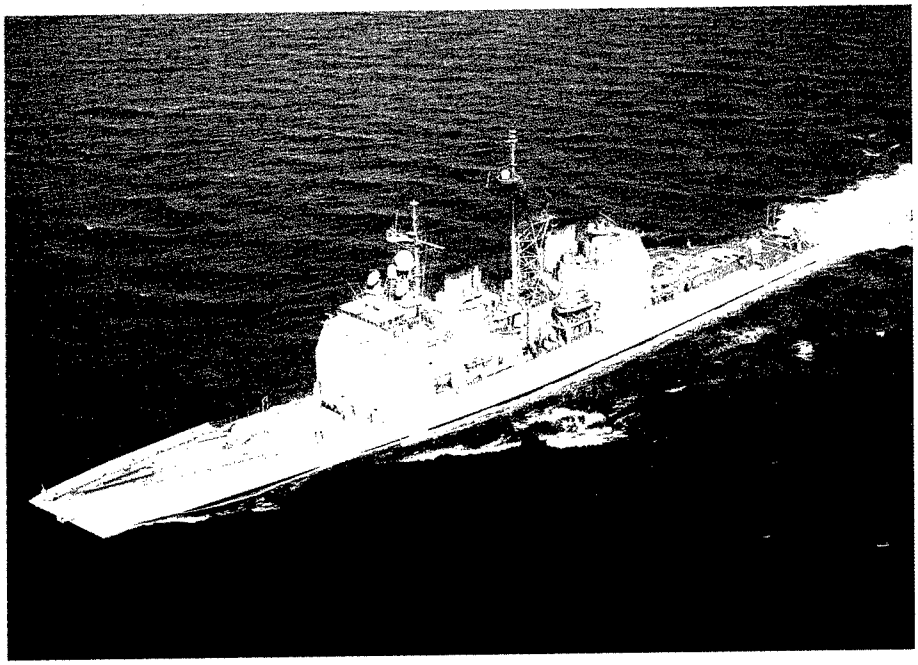

USS *Chancellorsville* (CG 62) is deployed to the Persian Gulf in support of Operation Southern Watch. *(Mahlon K. Miller/USN)*

USACOM/2nd Fleet

USS *Avenger* (MCM 1)
USS *Champion* (MCM 4)
USS *Devastator* (MCM 6)
USS *De Wert* (FFG 45)
USS *Inchon* (MCS 12)
USS *Scout* (MCM 8)

USSOUTHCOM/CTF 40

USS *Boone* (FFG 28)
USS *Reuben James* (FFG 57)
USS *Thomas S. Gates* (CG 51)
USS *Wadsworth* (FFG 9)

USCENTCOM/5th Fleet

USS *Ardent* (MCM 12)
USNS *Catawba* (TATF 168)
USS *Chancellorsville* (CG 62)
USS *Curtis Wilbur* (DDG 54)
USS *Dextrous* (MCM 13)
USS *Halyburton* (FFG 40)
USS *Hewitt* (DD 966)
USNS *Kilauea* (TAE 26)
USS *Kitty Hawk* (CV 63)
USNS *Niagara Falls* (TAFS 3)
USS *Paul F. Foster* (DD 964)
USNS *Rappahannock* (TAO 204)
USS *Rodney M. Davis* (FFG 60)
USS *Tempest* (PC 2)
USNS *Walter S. Diehl* (TAO 193)

USEUCOM/6th Fleet

USS *Arctic* (AOE 8)
USS *Cyclone* (PC 1)
USS *Elrod* (FFG 55)
USS *Emory S. Land* (AS 39)
USS *Gunston Hall* (LSD 44)
USNS *Henry J. Kaiser* (TAO 187)
USS *Kearsarge* (LHD 3)
USNS *Laramie* (TAO 203)
USS *La Salle* (AGF 3)
USNS *Leroy Grumman* (TAO 195)
USS *Leyte Gulf* (CG 55)
USNS *Mount Baker* (TAE 34)
USS *Mount Whitney* (LCC 20)
USS *Peterson* (DD 969)
USS *Ponce* (LPD 15)
USS *Ramage* (DDG 61)
USS *Ross* (DDG 71)
USNS *Saturn* (TAFS 10)
USS *Stephen W. Groves* (FFG 29)
USS *Theodore Roosevelt* (CVN 71)
USS *Vella Gulf* (CG 72)

USPACOM/7th Fleet

USS *Belleau Wood* (LHA 3)
USS *Benfold* (DDG 65)
USS *Blue Ridge* (LCC 19)
USS *Chosin* (CG 65)
USS *Comstock* (LSD 45)
USS *Constellation* (CV 64)
USS *Cushing* (DD 985)
USS *David R. Ray* (DD 971)
USS *Dubuque* (LPD 8)
USNS *Flint* (TAE 32)
USS *Fort McHenry* (LSD 43)
USS *Frank Cable* (AS 40)
USS *Frederick* (LST 1184)
USS *Gary* (FFG 51)
USS *George Philip* (FFG 12)
USS *Germantown* (LSD 42)
USS *Guardian* (MCM 5)
USS *Ingraham* (FFG 61)
USS *John S. McCain* (DDG 56)
USS *Juneau* (LPD 10)
USS *Kinkaid* (DD 965)
USS *Lake Erie* (CG 70)
USS *Mobile Bay* (CG 53)
USNS *Narragansett* (TATF 167)
USS *O'Brien* (DD 975)
USS *Ogden* (LPD 5)
USS *Patriot* (MCM 7)
USS *Peleliu* (LHA 5)
USS *Rushmore* (LSD 47)
USS *Safeguard* (ARS 50)
USS *Sacramento* (AOE 1)
USNS *San Jose* (TAFS 7)
USNS *Spica* (TAFS 9)
USS *Stethem* (DDG 63)
USS *Thach* (FFG 43)
USNS *Tippecanoe* (TAO 199)
USS *Vincennes* (CG 49)
USS *Vandegrift* (FFG 48)
USNS *Yukon* (TAO 202)