

From Desert Storm to Operation Iraqi Freedom: A Navy transformed

Much effort these days is focused on transforming the military to one that will better face the challenges of the changing security environment. CNA's analysis of the Navy's participation in Operation Iraqi Freedom (OIF) highlights the Navy's significant transformation in the decade between Desert Storm and OIF. In Desert Storm, the Navy lacked the ability to communicate reliably with the combatant commanders, components of other services, subordinate commands, and other-service tactical units. In OIF, the Navy enjoyed full communications via several means: voice, VTC, email, chat, and websites. In Desert Storm, the Navy suffered from an inability to gain access to intelligence products. It lacked access to imagery for aircrews and could neither receive nor contribute to bomb damage assessment. In OIF, the Navy enjoyed full access to intelligence products. Imagery was just a click away; maritime intelligence data flowed from ONI to theater to support maritime interdiction operations.

In Desert Storm, only 3 percent of Navy-dropped strike weapons were precision guided, which greatly limited the role of Navy strike aircraft. In OIF, fully 96 percent of the weapons delivered by the Navy were precision-guided munitions. Navy strike-fighters played crucial roles in all aspects of OIF: supporting the ground war in the south, countering potential SCUDs in the west, and supporting SOF forces in the north. In Desert Storm, because the Navy suffered from immature understanding of how to participate in and contribute to joint operations, it was not effective in influencing joint targeting and the JFACC process. In OIF, NAVCENT understood and executed its mission as a component. The Navy understood the JFACC process and provided a robust naval liaison element to the air operations center. As a result, key naval capabilities were in demand, and the Navy greatly influenced the air campaign.

Our analysis also revealed new challenges for the Navy that point to the next round of transformation required for the Navy's success in future operations. Unlike the challenges the Navy faced in the 1990s, those that remain after OIF are inherently joint in nature: they require coordinated efforts by all the services acting in concert. (Contact: Ms. Maureen Wigge, (703) 824-2490)

Naval force-structure review

The 2001 Quadrennial Defense Review is the last comprehensive study of Naval force structure. Since that time, some of the previous studies' assumptions have changed due to real-world events. To better inform the debate for POM-06 and PR-07, N70 is reviewing the Naval force structure required to support major combat operations. That study comprises two parts: an analysis of the mix and number of platforms required to achieve victory in each of two overlapping campaign scenarios, and an analysis of the overall force structure required to supply the necessary forces to the fight in time to support the concept of operations. We are leading the second part of the study.

We are using both theoretical and empirical models to explore force-deployment options, determine ranges for overall force structure size, and assess the implications for maintenance, training, and personnel. OPNAV, SYSCOM, and Fleet feedback is also incorporated. Because the scenario warfighting requirements are the primary inputs to the assessment of overall force structure, our analysts are also supporting the first part of the study. (Contact: Dr. Delwyn L. Gilmore, (703) 824-2258)

Future surface combatants

For the past ten years, the Navy has been developing the characteristics of the next generation of surface combatants. It currently has programs for two of these ships—a new destroyer (DD(X)) and a Littoral

Combat Ship (LCS). It has also initiated a Cruiser Conversion program to improve the combat capability and extend the service lives of its existing 22 CG-52 class cruisers. Because the Navy's current and converted cruisers will be the next ships to retire, the new generation of surface combatants will need to replace the relevant mission capabilities afforded by these ships as well as provide newly identified capabilities.

The Navy has asked CNA to lead a multi-organizational effort to identify the capabilities needed in its future surface combatants in the context of the new Joint Capabilities Integration and Development System. We are identifying the mix and characteristics of the joint operational tasks that future surface combatants will need to support and will use these tasks to assess whether gaps exist between the capabilities of our evolving joint and surface forces and the capabilities of our potential adversaries. (Contact: Dr. Mark T. Lewellyn, (703) 824-2190)

Predicting aircrew combat performance

All Navy strike aircrew members have reached strict pre-combat training qualification levels, but they differ in career and combat experience, as well as in recent training and operational experience. Strike aviators know that experience matters in combat and is seen as important for both mission success and aircrew survivability. We are quantifying the connection between strike aircrew experience and mission success. We are basing our work on the analysis of every documented Navy combat sortie flown since 1999, including data from Operation Desert Fox, Kosovo combat operations, Operation Southern Watch, and operations Enduring Freedom and Iraqi Freedom. Our focus is on experience employing both laser-guided bombs—the most commonly used weapon—and other weapons, and on the character of support from airborne and ground-based controllers.

We have developed a predictive model of aircrew combat performance based on the aircrew training and combat data. The model addresses a wide range of resource and employment decisions, from those made in OPNAV to those made by fleet squadrons in combat. We are working with COMNAVAIRPAC to understand the implications of the Fleet Readiness Program

in maintaining combat skills during periods of carrier and air-wing surge readiness. (Contact: Dr. Alan C. Brown, (703) 824-2358)

Lateral transfers from URL are costly

As the Navy manages its officers corps, it must consider not only accessions, losses, and promotions, but also lateral transfers, which affect both the endstrength of each community and the mix of skills of its members. Lateral transfers cover officers moving from one Unrestricted Line (URL) community to another as well as officers moving between URL communities and Restricted Line (RL) and Staff Corps communities. Currently, the Navy allows a significant number of warfare-qualified officers to transfer from the URL to the RL, many of whom are surface warfare officers (SWOs). The argument in favor of these transfers is that these officers are more valuable to the receiving communities than either direct accessions into the RL communities or transfers who are not warfare-qualified. The argument for reducing the number of these transfers is that the Navy has to put far more junior SWOs on board ship than requirements justify, which is costly and counts against the Navy's manpower endstrengths.

Our analysis shows that by restricting SWO accessions, restricting the number of lateral transfers from SWO to the RL, and increasing the SWO continuation bonus, the Navy could save about 750 in officer endstrength and about \$90 million per year. The risk of such an action is that the SWO retention response to the continuation bonus will be lower than previously experienced. However, even if the bonus has to be increased 1.5 times above our estimate, the cost savings are diminished by only 10 percent. The impact of the change is that the RL would become more junior and would reduce the percent of the RL that is warfare qualified. The risk from the first would be mitigated by a current proposal to reduce the size of the RL. The reduction in the percent of the RL that is warfare qualified does not appear large enough to forgo the annual \$90 million savings. (Contact: Dr. Albert Monroe, (703) 824-2970)

GENDETs frequently become rated and reenlist

GENDETs (general detail sailors) are sailors who, instead of going directly to school to receive training and earn a Navy rating, are sent to the fleet to perform unskilled jobs. Many senior leaders question the merits of recruiting GENDETs. With no training, they could have poor career opportunities and their high early attrition could be costly. We examined several aspects of these issues and found that, over the past few years, the Navy has been providing career opportunities for GENDETs. From FY01 through FY03, about 90 percent of GENDETs who reached the end of their first term of service had earned a rating, which means they were eligible to move into the career force. The average GENDET was two years in the fleet before earning a rating.

The reenlistment rate for sailors who began as GENDETs is about equal to the rate for non-GENDETs with four-year obligations. We did find that GENDETs still have higher first-term attrition than other sailors. The attrition gap at 24 months is about 4 percentage points. From a cost standpoint, the extra cost of the slightly lower retention is more than offset by the low recruiting and training costs of GENDETs. With the length of time the current fleet of ships will be in the Navy and, given the way the Navy currently constructs requirements, we found that the need for GENDETs will persist into the future. As long as there are valid requirements for GENDET work aboard ships, GENDETs are a cost-effective option to provide that work. (Contact: Dr. Henry Griffis (703) 824-2208)

Safety record improving, more possible

The Secretary of Defense recently mandated a 50-percent reduction in mishap rates for all the military services over the next 5 years. DoN is concerned with its ability to attain such reductions. In a study for ASN(I&E), we examined trends in mishaps among Navy civilian workers since the 1990s and found not only a significant improvement in safety in the Navy's workplace, but also a potential for further improvements. Almost half of the improvement was attributed to changes in the workers and their work. In particular, there was a large decline in the DoN's industrial work-

force, which suggests that, without future changes in the workforce, DoN is unlikely to continue to make such big improvements.

We also found substantial savings as a result of improved safety. For example, safety improvements led to 2,600 fewer mishaps in 1998, which translates to savings of \$43 million annually in workmen's compensation costs. In addition, we found substantial differences in mishap rates for similar jobs across DoN organizations. If all activities improve to meet the best-in-class performance levels, we estimate that an additional 56-percent reduction in overall mishaps could be achieved. Safety practices already in place at DoN's "best" commands could be the basis for achieving future goals and making the workplace safer. (Contact: Mr. Michael Bowes, (703) 824-2353)

Navy to close 12 galleys based on CNA study

The head of Navy installations recently announced his decision to close 12 galleys at shore bases. He stated that his decision was influenced by a study reported in the December 2003 CNA *Quarterly*. The 12 galleys serve few sailors. In fact, they serve more cash customers than sailors, and those customers are heavily subsidized. The Navy will pay Basic Allowances for Subsistence to military personnel currently using those galleys, which will result in net savings of at least \$15 million a year. Additional savings or revenue could result from alternative uses of the buildings. (Contact: Mr. Perkins Pedrick, (703) 824-2747)

Swimming in a new sea: Civil-military issues in today's China

In March 2004, The CNA Corporation's Project Asia hosted a major international conference that discussed the trends in civil-military relations in early 21st century China. Over the course of two days, a distinguished group of international scholars—political scientists, historians, and long-time students of the PLA—gathered at CNA to present papers and engage in discussions with a remarkably well-informed audience from academia, government, and the business community. The panels and topics were designed to begin with a broad look at the profound changes under

way in Chinese society and examine their wider implications for the PLA, and then move through a progressively narrowing set of issues down to the “grass roots levels.” We are working with ME Sharpe to publish the papers resulting from this conference in what will be our third edited volume. The other two volumes are entitled: *Chinese Warfighting, the PLA Experience Since 1949*; and *China’s Leadership in the 21st Century: The Rise of the Fourth Generation*. (Contact: David Finkelstein, (703) 824-2952)

Christine Fox receives award

CNA President Christine Fox received the Corporate Leadership Award from the Boys & Girls Clubs of Greater Washington in May. She was among five honorees at the 19th annual Congressional dinner and fundraiser. The Corporate Leadership Award recognizes corporate executives who are role models for young people. In her remarks, Fox said that the secret of her success is the encouragement she got from her family and mentors along the way. She encouraged those in the audience to go with what they’re good at—and to see no boundaries in pursuit of their interests.

Dr. Allen Hjelmfelt wins Parsons Award

On 11 June, the National Awards Board of the Navy League presented Dr. Allen Hjelmfelt with the 2004 Rear Admiral William S. Parsons Award for Scientific and Technical Progress. Previous winners of this prestigious award include a Nobel laureate, a winner of the National Medal of Science, and many other well known scientists. The Commander, Naval Forces Central, nominated Dr. Hjelmfelt for this award for his participation in planning and assessing JFMCC operations in support of Operation Iraqi Freedom. Dr. Hjelmfelt was assigned as CNA’s field representative to NAVCENT from October 2001 to August 2003.

CNA analysts author chapters in new book

Filling the Ranks: Transforming the U.S. Military System, a book published recently by the MIT Press, analyzes current military pay and personnel policies and identifies changes needed to maintain and improve the all-volunteer force. It identifies specific problems posed—for both active-duty and reserve forces—by today’s military career patterns, training, pay, and benefits. It then offers recommendations for effective policies. Four CNA analysts contributed chapters to this book. Aline Quester and Diana Lien coauthored a chapter on experiments to evaluate the value of changes to the compensation system. Don Cymrot and Michael Hansen coauthored a chapter on transforming the rewards for the enlisted ranks. (Contact: Dr. Aline Quester, (703) 824-2728)