NAVAL AVIATION VISION
2020

THE RIGHT WARFIGHTING READINESS

Current Readiness

Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF)

Naval Aviation's current combat readiness is responsible for much of the success in the GWOT. Achieving air superiority over Afghanistan, Navy and Marine Corps aircraft set Operation Enduring Freedom (OEF) in motion, flying over half the total sorties. Seventy percent of those sorties were strike-related, with strike fighters averaging two aim points per aircraft per sortie, a monumental shift from the mass force packages of Operation Desert Storm. Ninety-three percent of Navy and Marine Corps strike sorties delivered precision-guided ordnance in OEF.

For Operation Iraqi Freedom (OIF) in 2003, five carriers plus amphibious ships and shore-based detachments brought an armada of striking power from the sea. Over 700 Navy and Marine Corps aircraft of all types supported OIF. Forty-six percent of the strike aircraft deployed for OIF came from the Navy and Marine Corps, flying over 8,000 sorties and delivering nearly 9,000 precision-guided munitions.

OIF tested the Fleet and the Fleet responded. Seven CSGs deployed worldwide, and those involved in OIF surged to 16-hour flying days for as much as 23 days straight. Seven of ten Carrier Air Wings were deployed, sustaining an 85 percent mission capable rate. During OIF Phase IV Stability Operations, Navy and Marine Corps aircraft contributed to precise strikes in urban operations, and provided supply route security for coalition land forces. Navy and Marine Corps carrier-based aircraft also participated in time-critical strikes, battlespace shaping operations, and CAS for forces engaged in Iraqi cities like Fallujah.

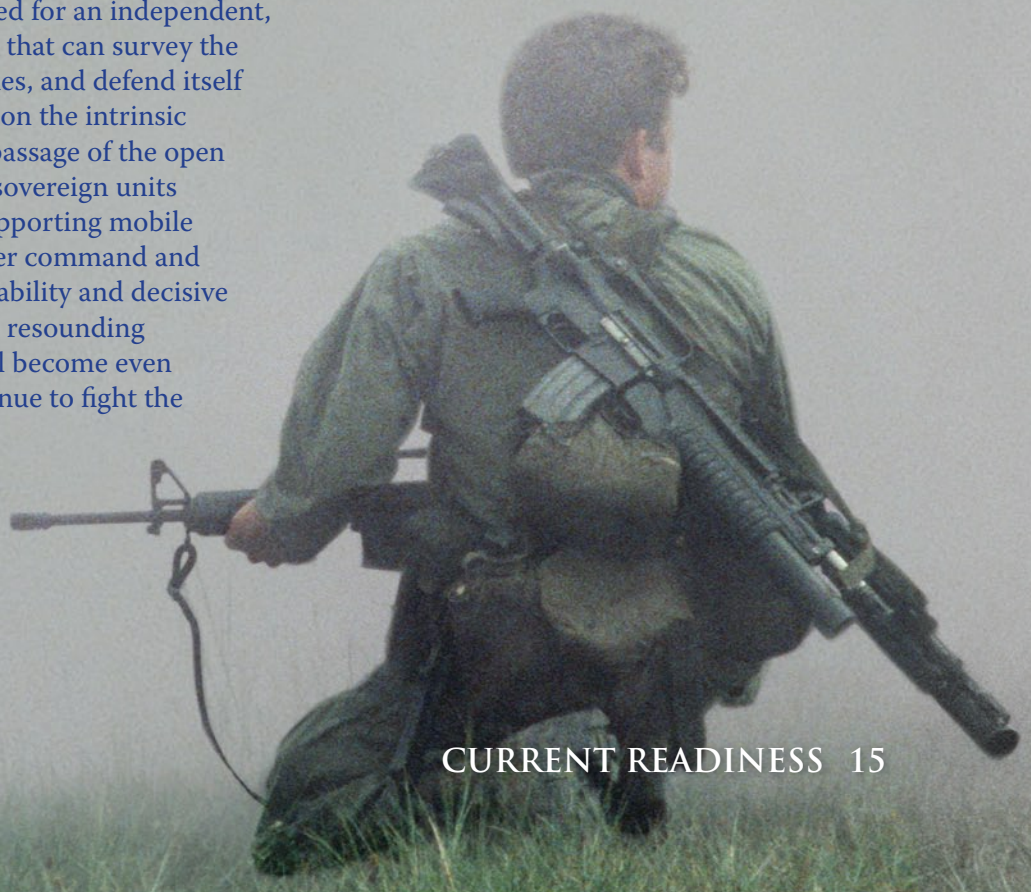
Teams of engineering, test, and evaluation experts throughout the Naval Aviation Enterprise (NAE) supported the development and integration of the weapons used in OIF and OEF, including JDAM, JSOW, HARM, Tomahawk, SLAM-ER, and Laser-Guided Bombs (LGBs). Additionally, aircraft weapon systems integration was provided for ATFLIR, FTI, SHARP, LITENING II Pods, MIDS, DCS, JHMCS, AIM-9X, and AMRAAM systems, as well as Operational Flight Programs (OFPs) for the F-14, AV-8B, F/A-18C/D, F/A-18E/F, and AH-1W, all critical to improving the Warfighter's ability to find and prosecute enemy targets.

State-of-the-art prototype systems were also deployed to forces in-theater during OIF, meeting critical Warfighter requirements. Among them were:

- The Tactical Dissemination Module (TDM), which provides an electronic targeting link between the Combined Air Operations Command (CAOC) and the cockpit. TDM supported over 1,000 OIF missions and remains in theater today.
- The Digital Precision Strike Suite (DPSS), which helps ground units correlate real-time target images with database imagery, and provides targeting quality coordinates to airborne, sea-based, and land-based Warfighters. Hundreds of laptop DPSS systems have been provided to ground and Special Operations Forces (SOF) in the OIF and OEF theaters, and remain in use today.
- The improved, Metal Augmented Charge (MAC) thermobaric warhead for the AGM-114 Hellfire missile, which dramatically increases effectiveness against enclosed targets.

Dedicated 24/7/365 Fleet support of fielded systems was provided through the Warfighter Response Center (WRC). Providing direct, responsive, single-point reach-back to RDT&E expertise, the WRC helped resolve emergent problems with weapon system employment.

The inherent flexibility of the CSG and ESG is perhaps their greatest asset. Ready on arrival in the battlespace, they provide Joint Force Commanders with the unparalleled ability to respond immediately, decisively, and independently—without the requirement for host nation support. At the onset of OIF, host nation support for ground-based aircraft was neither offered nor provided, but aircraft launched from carriers in the eastern Mediterranean Sea were able to strike targets immediately. In the global political environment of the 21st century, it is increasingly unlikely that the United States will have the host nation support needed to conduct military operations, dictating the need for an independent, maneuverable striking force that can survey the battlespace, attack its enemies, and defend itself autonomously. Capitalizing on the intrinsic freedom and international passage of the open seas, the CSG and ESG are sovereign units of U.S. territory, and self-supporting mobile tactical airfields with premier command and control. This significant capability and decisive advantage, realized with the resounding success of OEF and OIF, will become even more important as we continue to fight the GWOT.



Fleet Response Plan (FRP) and Summer Pulse 2004

The FRP is the Navy's operational concept. It supports Sea Power 21 while providing the Navy with a flexible deployment strategy to combat the uncertainties of asymmetric warfare. FRP changes the way we operate, train, man, and maintain the Fleet. The essence of FRP is "targeted readiness"—finding new and cost-effective ways to tailor the mission readiness of our Naval forces, while providing the President with surge-deployable combat power in time of crisis.

The Summer Pulse 2004 exercise, conducted from June through August, was the first demonstration of FRP. As part of the exercise, the Navy deployed seven CSGs—four from the Atlantic and three from the Pacific—in five theaters of operation around the world. Summer Pulse demonstrated Naval flexibility and capability in support of large-scale surge operations, flexed the logistics and shore infrastructure, stressed the operational concepts of Sea Power 21, and improved Navy and Marine Corps interoperability with allies, coalition partners, and the Joint Services.

Summer Pulse 2004 proved that FRP is an operational reality and demonstrated the emergent availability of Naval forces to Joint Combatant Commanders, even while other Naval forces were engaged in OIF combat operations. Summer Pulse lessons learned will be analyzed to improve the functionality and flexibility of the FRP, make our shore supply and logistics infrastructure more agile, refine our training and manpower requirements, and tailor ship and aircraft maintenance schedules. An important outcome will be the ability to assess our resource expenditures, so the right money is spent on the right things and nothing is wasted. That discipline will lead us into the future of Naval Aviation, as we save today's dollars to recapitalize tomorrow's Navy and Marine Corps. Summer Pulse 2004 demonstrated our ability to bring four-and-a-half acres of American sovereignty, on short notice, to any part of the world, reinforcing the value and relevance of Naval Aviation to our national defense strategy.

The Naval Aviation Enterprise (NAE): A Key Readiness Enabler

The processes that drive Naval Aviation readiness and costs span several commands, including Commander, Naval Air Forces (CNAF), Naval Education Training Command (NETC), Naval Air Systems Command (NAVAIR), Naval Sea Systems Command (NAVSEA), Naval Supply Systems Command (NAVSUP), and the Naval Inventory Control Point (NAVICP). The U.S. Marine Corps and Joint Commands, such as the Defense Logistics Agency (DLA), also impact readiness and cost.

The NAE is a warfighting partnership where interdependent issues affecting multiple commands are resolved on an Enterprise-wide basis. The NAE enables communication across all elements of the Enterprise, fosters organizational alignment, encourages inter-agency and inter-service integration, stimulates a culture of productivity, and facilitates change when change is needed to advance and improve. Working together optimizes the use of existing resources, manages the costs associated with generating readiness, and harnesses change as a positive force within our Navy and Marine Corps.

The vision of the NAE is *to deliver the right force, with the right readiness, at the right cost, at the right time—today, and in the future*. This vision drives the NAE toward the construct of single process ownership, vital toward establishing a culture of Cost-Wise Readiness—one with improved materiel management, more balanced logistics support, and higher availability through faster turnaround times. Essential to achieving Cost-Wise Readiness is understanding our total force cost structure, managing cost reductions, and making sound

investments as a cohesive Enterprise. The efficiency and effectiveness of the NAE will be measured by the single Fleet-driven metric of *aircraft ready for tasking at reduced cost*. This metric is the standard against which we will measure our ability to deliver the things we value: Cost-Wise Readiness, tied to the demands of our Fleet operators; improved Time on Wing (buying less, but better equipment that stays on the aircraft longer because it is a superior product); Speed/Reduced Cycle Time (aircraft and components spending less time in maintenance); Reliability (Quality); Total Cost; and implementing process efficiencies.

NAE Core Stakeholders

The NAE is comprised of the following Core Stakeholders:

- Commander, Naval Air Forces (CNAF) (NAE Chief Executive Officer)
- Commander, Naval Air Systems Command (COMNAVAIRSYSCOM) (NAE Chief Operating Officer)
- Deputy Commandant for Aviation, Headquarters Marine Corps (HQMC)
- Commander, Naval Air Force, U.S. Atlantic Fleet (CNAL)
- Chief of Naval Air Training (CNATRA)
- Director, Air Warfare Division (OPNAV N78) (NAE Chief Financial Officer)
- Director, Fleet Readiness Division (OPNAV N43)

In addition to the Core Stakeholders, there is a Board of Directors (BOD) comprised of representatives from approximately 20 organizations involved in all aspects of Naval Aviation readiness.

NAE Strategic Goals

Balance Current and Future Readiness

- Support the Fleet Response Plan safely, with improved organizational alignment and operational effectiveness
- Maintain direct, frequent, and continuous communication with Navy Type Wing and Marine Wing Commanders to produce combat-ready aircraft at reduced cost
- Strengthen development and acquisition to maximize the return on recapitalized funds

Reduce the Cost of Doing Business

- Work across SYSCOM/Joint boundaries to maximize our share of the resources
- Provide more products and more capability per dollar to the Fleet
- Use dollars saved through improved efficiencies to upgrade and modernize our aging force

Enhance Agility

- Improve our responsiveness and adaptability
- Communicate better with the Fleet, streamline decision-making, compress management layers, demand accountability, and tailor product-delivery processes

Improve Alignment

- Align with the strategic direction of higher authority outside the Enterprise
- Align NAE functions and processes to provide aircraft ready for tasking at reduced cost
- Communicate our vision so that all NAE employees have a sense of purpose and clearly understand the meaning of their individual contributions to the NAE

Attain and Maintain Visibility Across the Enterprise

NAE Actions

- Prioritize capabilities, define requirements, and efficiently acquire and prepare relevant and optimally sized Naval Air Forces that satisfy our nation's warfighting needs
- Operate with a common set of linked processes, each having an owner, metrics, and an action plan that drives continuous improvement
- Manage with performance and financial metrics as the common Enterprise language
- Install processes that are repeatable, agile, and predictive
- Execute a Continuous Improvement Program designed to define, measure, improve, and control NAE processes, to include Human Capital, acquisition, training, and materiel readiness
- Develop quantifiable outcome metrics to measure our success and cultivate improvements that positively impact current and future Naval Aviation readiness

NAE Initiatives

Using the following initiatives, the NAE will harvest efficiencies in the way it does business, guaranteeing the future of Naval Aviation.

AIR*Speed*

There are three AIR*Speed* Programs that fall under the umbrella of the NAE: Depot AIR*Speed*, which started in 1999; Enterprise AIR*Speed*, which started in 2003; and NAVAIR AIR*Speed*, which started in 2004. All of these initiatives use industry-proven, best business process methodologies (or tools) to increase efficiency and productivity, so that products are delivered to the Fleet faster, at reduced cost. The tools are: Lean, Theory of Constraints (TOC), and Six Sigma.

Lean principles strip out waste from every aspect of production, such as the flow of materials from suppliers and the flow of goods to customers. Lean reduces Work-In-Progress (WIP), speeds processes, and is used to identify and eliminate non-value added steps that cause delays, driving costs up.

TOC is a tool that identifies and corrects bottlenecks and constraints, addresses interdependencies, and creates a culture wherein customer demand drives workflow (known as a "pull system").

Six Sigma examines variation that causes rework, driving costs up. Using statistical analysis as the basis for standardization, Six Sigma targets the issues that have the greatest impact on customer value.

Depot AIR*Speed*

Depot AIR*Speed* is now deployed across all three NAE Depots: Cherry Point, Jacksonville, and North Island. The mission of Depot AIR*Speed* is to reduce cycle-time, improve productivity, and establish a culture of continuous process improvement. Specific Depot AIR*Speed* goals are:

- Reduce WIP inventory
- Reduce operating expenses
- Increase throughput
- Improve scheduling accuracy and on-time delivery
- Reduce the number of assets in the depot pipeline
- Establish a "demand-pull" market driven by Warfighter requirements

All three Depots are identifying component flow Critical Paths so that bottlenecks can be eliminated. To date, Depot AIR*Speed* has resulted in:

- The accelerated production of a full squadron of CH-46s (12 aircraft) at the Cherry Point Depot. Turnaround time dropped from 215 to 170 days and WIP dropped from 28 aircraft to 18, using the same staffing level.
- The accelerated production of one-and-a-half squadrons of EA-6Bs (6 aircraft) at the Jacksonville Depot. Re-wing turnaround time dropped from 594 days to 450 and WIP dropped from 16 aircraft to 9, with 5 of the last 7 delivered ahead of schedule.
- The accelerated production of more than one squadron of F/A-18s (12 aircraft) at the North Island Depot. Turnaround time dropped from 192 to 132 days and WIP dropped from 31 aircraft to 16, while maintaining the production labor-rate at under $78/hour.

The NAE's goal is to deploy Depot AIR*Speed* across all product lines by the end of FY 2006.

Enterprise AIR*Speed*

Enterprise AIR*Speed* aligns Organizational, Intermediate, and Depot-Level supply replenishment and repair processes to the demands of the Fleet operator, enabling the effective and efficient preparation of the right number of cost-wise, Ready-for-Tasking (RFT) aircraft required to perform the mission. When the RFT entitlements are correct, inventory and costs are properly managed and the interdependencies of the Enterprise as a whole, from Organization-Level through Intermediate-Level to supply and acquisition, can then be addressed. Gradually, through Enterprise AIR*Speed*, each entity of the NAE will understand the global impact of its local decisions. The integration of Enterprise AIR*Speed* and Depot AIR*Speed* began in July 2004.

Enterprise AIR*Speed* is an enabler of Cost-Wise Readiness that operates within the NAE's Naval Aviation Readiness Integrated Improvement Program (NAVRIIP), discussed on the following page.

NAVAIR AIR*Speed*

NAVAIR AIR*Speed* extends the success already realized by Depot and Enterprise AIR*Speed* to transactional and non-production service environments. It is the solution to a fundamental need to change the way NAVAIR does business at every level: Headquarters, Competency, Program Executive Office (PEO), Program Manager Air (PMA), Integrated Product Team (IPT), and Business Unit. NAVAIR AIR*Speed* is a cultural transformation that will enable our people to become more productive and more efficient at meeting mission requirements, increase the level of customer satisfaction, and facilitate the availability of resources necessary to fund the future readiness of Naval Aviation. Selected NAVAIR personnel are being taught how to use and implement the AIR*Speed* tools mentioned above by world-class industry experts. Known as Black Belts, this cadre of NAVAIR leaders and experts will shepherd the evolution and development of NAVAIR's process improvement initiatives for years to come.

Naval Aviation Readiness Integrated Improvement Program (NAVRIIP)

NAVRIIP helps understand and control cost drivers. It is focused on achieving *aircraft ready for tasking at reduced cost*, which is accomplished by creating a culture of Cost-Wise Readiness and continuous process improvement. Cost-Wise Readiness is a concept that, when operationalized, will help us achieve the *right* readiness at the *right* cost, as opposed to readiness at *any* cost.

In support of the FRP, NAVRIIP fundamentally changes how the Navy provides manpower, equipment, maintenance, supply, and training to Naval Aviation commands between deployments. The goal of NAVRIIP, which is an NAE Cross Functional Team (CFT) headed by CNAL, is to balance and align interactions between Organizational-Level, Intermediate-Level, and Depot-Level maintenance activities and the associated logistics infrastructure. NAVRIIP measures *inventory*, *reliability, cycle time,* and *cost* during the Inter-Deployment Readiness Cycle to identify and resolve barriers to improvement. Type/Model/Series (T/M/S) Teams manage readiness and costs at the Carrier Air Wing (CVW) and squadron level, Barrier Removal Teams tackle barriers at every level of the organization, and the Metrics Team develops the metrics by which NAVRIIP monitors progress.

Intermediate and Depot Level Integration/Fleet Readiness Centers (FRCs)

Presently, there are three levels of maintenance in Naval Aviation: 1) Organizational-Level Maintenance, required to operate Naval Aircraft at the squadron level; 2) Intermediate-Level Maintenance, performed by shipboard or shore-based organizations that repair components, engines, and support equipment for their assigned squadrons; and 3) Depot-Level Maintenance, an industrial capability that includes in-depth overhauls and major repairs to aircraft, engines, components, and support equipment.

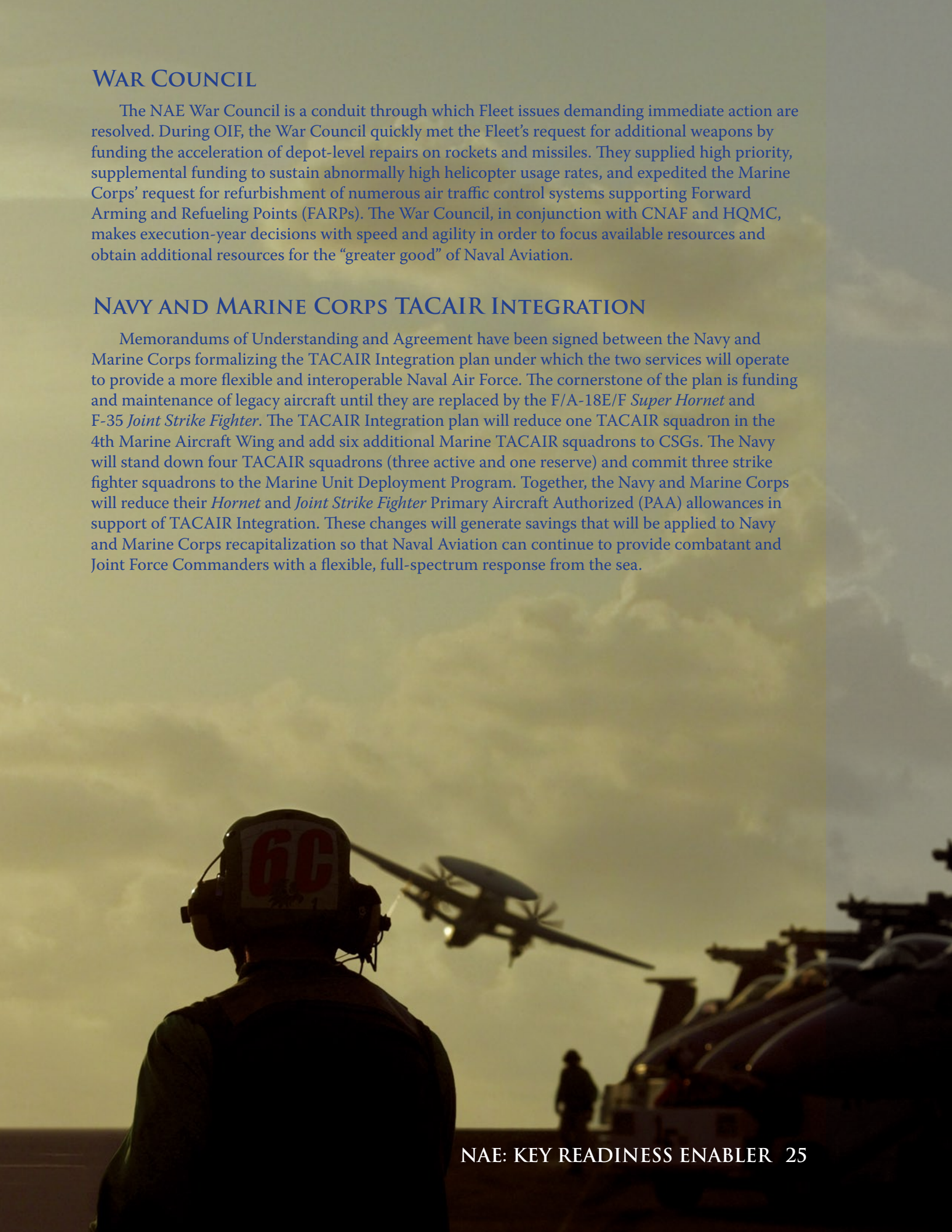
The vision of Naval Aviation maintenance in the future involves just two levels: On-Flight Line and Off-Flight Line. Operational squadrons will perform the maintenance and servicing necessary to actually fly the aircraft (On-Flight Line), much as they do now. When a major component, such as an aircraft engine, is removed, that component will be transferred to an Off-Flight Line Fleet Readiness Center (FRC) located near the home Naval Air Station. The FRC will combine the old I-Level and D-Level capabilities into one facility, and perform the repairs and overhauls necessary to return major components to Ready-for-Issue (RFI) status. The FRC concept will streamline processes and remove barriers between the Navy's retail (I-Level) and wholesale (D-Level) inventories, adding speed to the navy supply system.

War Council

The NAE War Council is a conduit through which Fleet issues demanding immediate action are resolved. During OIF, the War Council quickly met the Fleet's request for additional weapons by funding the acceleration of depot-level repairs on rockets and missiles. They supplied high priority, supplemental funding to sustain abnormally high helicopter usage rates, and expedited the Marine Corps' request for refurbishment of numerous air traffic control systems supporting Forward Arming and Refueling Points (FARPs). The War Council, in conjunction with CNAF and HQMC, makes execution-year decisions with speed and agility in order to focus available resources and obtain additional resources for the "greater good" of Naval Aviation.

Navy and Marine Corps TACAIR Integration

Memorandums of Understanding and Agreement have been signed between the Navy and Marine Corps formalizing the TACAIR Integration plan under which the two services will operate to provide a more flexible and interoperable Naval Air Force. The cornerstone of the plan is funding and maintenance of legacy aircraft until they are replaced by the F/A-18E/F *Super Hornet* and F-35 *Joint Strike Fighter*. The TACAIR Integration plan will reduce one TACAIR squadron in the 4th Marine Aircraft Wing and add six additional Marine TACAIR squadrons to CSGs. The Navy will stand down four TACAIR squadrons (three active and one reserve) and commit three strike fighter squadrons to the Marine Unit Deployment Program. Together, the Navy and Marine Corps will reduce their *Hornet* and *Joint Strike Fighter* Primary Aircraft Authorized (PAA) allowances in support of TACAIR Integration. These changes will generate savings that will be applied to Navy and Marine Corps recapitalization so that Naval Aviation can continue to provide combatant and Joint Force Commanders with a flexible, full-spectrum response from the sea.



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Aircraft Inventory Optimization

The NAE has begun conducting aircraft inventory reviews of all aircraft T/M/S to develop the optimum balance between requirements and usage. Leading this initiative are the Type Wing Commanders, Program Managers, and Requirements Officers. Their assignment is to optimize Naval Aviation's inventory by conducting zero-based reviews of all aircraft, assessing accident rates, anticipating combat attrition, devising spares policies to improve operational availability, and determining inventory for all current and planned aviation acquisitions. The overriding objective is to retain and procure only those aircraft necessary to meet mission requirements with acceptable risk, resulting in a leaner, less expensive, and more productive Naval aircraft inventory. Although each aircraft community will be reviewed individually, the impacts of the solutions developed are considered across the entire NAE.

For example, the number of aircraft configurations in the EA-6B community was reduced from four to two, and the number of aircraft overall was reduced from 120 to 108. This decreased the number of required outer-wing panel replacements, freeing up $20.4M in FY 2004. Some of this money was returned to the Navy and some was invested in fixing historically troublesome aircraft components. The Fleet Replacement Squadron's student throughput became faster and more productive because the focus of the Maintenance Department had been changed to support a leaner inventory.

Inventory Optimization leads to fewer aircraft configurations, more reliability, and higher aircraft utilization rates. Fewer aircraft configurations allow Depots to reap the maximum benefit from initiatives like Lean, TOC, and Six Sigma, such that aircraft "down time" is decreased and the Depot-level repair process becomes faster and more efficient.