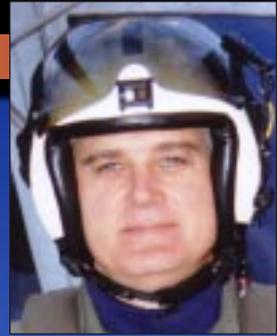


The Future Carrier Fleet

By RAdm. John Nathman
Director, Air Warfare



As this article goes to print, *Independence* (CV 62), the last in a proud line of *Forrestal*-class carriers, has just been decommissioned. In her nearly 40 years of service, *Indy* served our nation well, as did her sister ships *Forrestal* (CV 59), *Saratoga* (CV 3) and *Ranger* (CV 4). As we close this important chapter in Naval Aviation history, I would like to take a few minutes to consider the future of our carrier fleet.

Indy's replacement, *Harry S. Truman* (CVN 75), is the eighth *Nimitz*-class carrier to enter the fleet. The *Nimitz* class has now been in service for over 23 years, and *Nimitz* (CVN 68) has just begun mid-life refueling and modernization. Although each new *Nimitz*-class carrier has incorporated modifications, the class has remained essentially the same since CVN 68 was commissioned in 1975. That is about to change.



John C. Stennis (CVN 74), with Carrier Air Wing 7 embarked, heads to the Arabian Gulf on her first operational deployment. Photo © Antony Platt/Blue Thunder Pictures

Although the next ship in this class, *Ronald Reagan* (CVN 76), will be very similar to her sister ships, the last of the line, CVN 77, will begin the evolution of the 21st century carrier. CVN 77, to be commissioned in 2008, will be a transition carrier, incorporating significant upgrades and serving as a test bed for the next generation. Once implemented, many of the CVN 77 enhancements will also be considered for retrofit into other *Nimitz*-class carriers, as they each will continue in service for 50 years.

The most visible change planned for CVN 77 is an integrated new island that will include active phased array radar, flat plane array antennas and a new integrated combat system design. These upgrades will provide better systems reliability and maintainability, improved performance and lower life-cycle costs. Other less visible but much-needed changes include an improved waste-management system, new automated damage control sensing and monitoring technologies, and a number of other improvements designed to reduce the cost of operating and maintaining the ship.

The next stride toward the goal, currently known as CVX 1, will add significant capability to the CVN 77 upgrades through development of a new nuclear propulsion plant that includes a new electrical generation and distribution system. This system will provide a quantum leap in electrical capacity, which will not only enhance CVX 1's warfighting capabilities and reduce manpower and maintenance costs, but will more importantly enable the addition of future technologies necessary to achieve the goal of CVX. CVX 1 improvements may not be as obvious to an uninformed observer, as the ship will maintain many *Nimitz*-class exterior characteristics, but its development will bring us another big step closer to achieving the vision we have for the next-generation aircraft carrier.

As currently envisioned, progression to the 21st century carrier will be achieved with the delivery of CVX 2 in 2018. The CVX 2 design will focus on an improved hull which will incorporate a state-of-the-art flight deck that enables increased sortie generation while dramatically reducing manning and maintenance costs. On the flight deck, the Electromagnetic Aircraft Launching System will replace the reliable but labor-intensive steam catapult system. In addition, the Electromagnetic Aircraft Recovery System will change the way we recover aircraft. Together, these changes will reduce the size, weight and maintenance demands of the flight deck systems, and potentially extend aircraft life by their capability to "soften" the shock of launches and recoveries. The planned improvements in hull design will provide greater survivability, reduced manpower and maintenance costs and an increase in design margin over the *Nimitz* hull, which has become loaded with additional topside weight.

When all these changes are implemented, they will reduce manpower requirements by 30 to 50 percent and lower life-cycle costs by 20 to 40 percent. More importantly, CVX 2 and her successors will be the most capable, reliable and survivable aircraft carriers ever built, and will enable our carrier fleet to take advantage of rapidly changing technologies.

The current fiscal climate will continue to affect funding levels and may require total force tradeoffs. However, the analysis and discussions leading to the recent CVX decision reinforced the 12-aircraft carrier battle group requirement and the absolute necessity for those carriers to have the capabilities that only a big deck and nuclear power can provide. There will certainly be more discussions and analyses, but for now the irreplaceable nuclear-powered aircraft carrier and its battle group will continue to lead our nation's defense for the foreseeable future.

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