

NAVAL AVIATION NEWS

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COVERS—Front: Rehearsing for Exercise Cobra Gold '95 (USAF Senior Airman Steve Thurow). Back: "Fogged In" (Keith Chapman). See the ANA Bimonthly Photo Competition, page 38, for more details on these two photographs.

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Naval Strike Warfare Center Improves Joint Training

By RAdm. Brent M. Bennitt, Director, Air Warfare

Operation Desert Storm was a revolutionary event in many ways, but, in particular, it changed the way the U.S. Armed Forces conducted air operations. The major change was a move from independently conducted air operations towards jointly planned and executed operations under the unified air commander: the Joint Forces Air Component Commander (JFACC).

The JFACC is a concept that has existed within the Air Force for a number of years, but it was recently endorsed as the joint standard for future air operations. Navy training in this area is still in its early stages but is improving rapidly. A key tool used in joint air ops is the Contingency Theater Automated Planning System (CTAPS). CTAPS is a "system of systems" that integrates different software applications linked together on computer workstations. CTAPS assists joint air planners as they develop target lists, plan air battles, match air resources to targets, develop Air Tasking Orders (ATOs) for various components, and track the progress of an air campaign. All aircraft carriers and fleet command ships are deploying with host CTAPS. Additionally, efforts are underway to install CTAPS suites on *Coronado* (AGF 11) and all large-deck amphibious ships.

The Naval Strike Warfare Center (NSWC) recently upgraded its command, control and communications suite with the addition of a CTAPS system that was provided by the Air Force. Introduction of CTAPS will allow NSWC to improve the quality of joint air ops training provided to deploying air wings.



RAdm. Brent M. Bennitt

NSWC joint air operations training and CTAPS will focus on three areas:

Joint Air Operations

Familiarization. NSWC is expanding its current lectures on joint air ops to provide training to the majority of air wing personnel. Currently, this training at NSWC is offered to strike leaders and senior air wing personnel.

CTAPS Familiarization/Training.

In cooperation with the Air Force Air Ground Operations School at Hurlburt Field, Fla., NSWC is developing a CTAPS familiarization course for deploying air wing personnel. This course will be designed to supplement formal CTAPS training conducted at schools throughout the fleet by providing basic CTAPS familiarity to air wing personnel who are unable to attend the formal course. The NSWC CTAPS course will combine classroom lectures, self-paced training and practical exercises designed to familiarize trainees with the roles they will play in working with a JFACC.

Joint Air Ops Integration in

Advanced Training. Installation of CTAPS at NSWC will move air wing training towards more realistic joint methodology. While air wing opera-

tions currently focus on campaign planning by the air wing commander, future NSWC air wing deployments will reflect more realistic joint operations. NSWC will act as the joint forces commander and will activate a JFACC with augmentation from the air wing. Air wing operations during the advanced training phases will be driven by JFACC interaction with the air wing commander and his staff and managed using CTAPS. Use of CTAPS will also increase opportunities for integration of Air Force, Marine Corps and Air National Guard assets in air wing training.

The Navy is leaning toward joint development of the Distributive Collaborative Planning capability. This system allows joint force commanders who are on-line with common data base and remote CTAPS suites to tie directly into host CTAPS architecture. This unveils a significant capability for war-fighting commanders to update missions, and to provide current mobile target positions and battlefield, bomb damage assessment and surveillance information.

We continue to frequently exercise CTAPS during all joint force training exercises. Currently deployed carrier air wings are writing their daily schedules using CTAPS and the ATO development cycle.

Joint air ops are not just the way of the future, they are the way we are operating now, and the concept is fully embraced by the Navy. Naval Aviation is meeting the challenges of changes in the way we fight, and NSWC is leading the charge in preparing Naval Aviation to fight in and lead joint air operations.

FLY 'EM SAFE!

J02 Bobby Jones

Sorry Stall

A pair of F-14s in a fleet replacement squadron (FRS) launched on a two-versus-two, over-water, air combat maneuvering (ACM) flight against a section of adversaries consisting of an F-5 *Tiger II* and an F-16 *Falcon*. The pilot of the *Tomcat* involved in this mishap had 329 total hours; the radar intercept officer (RIO) was an FRS instructor with over 1,600 hours, most of them in the F-14.

After the first merge, two separate one-versus-one flights resulted in one engagement to the south (F-14 vs F-5), the other to the north. The F-14 in the southern "fight" was in a level right-hand turn as the F-5 executed a nose-high reversal. The F-14 pilot lost sight of the F-5, which was at 18,000 feet and extending separation, but didn't advise his RIO who did have the F-5 in sight. The pilot went belly up on the F-5, at which point the RIO realized the pilot had lost sight of it.

The RIO "talked" the pilot's eyes onto the F-5 by calling, "Bogey right five o'clock high, converting high to low, come hard right." The F-14 pilot then broke hard right at 5 to 7 Gs with 15 degrees nose low, retarding the throttle from afterburner to military power. After 90 degrees of turn, the *Tomcat* was at 12,000 feet, 180 knots, 20 degrees nose down and 70 degrees angle of bank. The pilot tried to roll left with stick inputs only, but the F-14 did not respond.

"Come left," advised the RIO, who noted the *Tiger* pitching off in a high yo-yo.

The pilot put in left stick again. The F-14 started to roll left but hesitated, then rolled off to the right into a descending spiral.

"Watch the deck," radioed the RIO, "You've got 1,500 feet to play with. Check AOA [angle of attack indicator]."

The pilot sensed he had a problem. He checked the AOA and said, "It's broke." The pilot tried to neutralize the controls but the aircraft continued downward. Passing 10,000 feet, the RIO said, "We are terminating for rocks kill."



"I don't have rudder authority," said the pilot, "I can't make the jet come left."

"Do you have it?" asked the RIO.

"Hang on," said the pilot, conscious now of the water rushing toward the F-14. The aircraft was at 8,000 feet, 40 degrees nose down, 45 degrees angle of bank, right wing down and 150 knots, military power.

"Do you have it?" repeated the RIO.

"No, eject," said the pilot.

Passing 6,000 feet the RIO said, "Standby, eject, eject, eject," and initiated command ejection.

The emergency egress sequence was successful and the flyers were rescued from the sea by a SAR helo and its crew shortly thereafter.



Grampaw Pettibone says:

Singe my whiskers with a blow torch. A stall is a stall is a stall, gol dang it!

Investigators reconstructed the flight in the simulator and in the air based on the pilot's and RIO's observations. They determined the *Tomcat* experienced an accelerated stall when the pilot broke right and remained in a stalled condition. The aircrew failed to promptly recognize and properly correct the problem which led to a spiraling descent and ultimate ejection. Naval Air Training and Operating Procedures state that at an AOA greater than 25 units, lateral control inputs cause the aircraft to feint in the desired direction and then roll/yaw in the opposite direction, as happened in this case. The investigators believe the break turn drove the AOA to 45 units. The pilot tried to unload the aircraft with forward stick but apparently didn't push forward enough—at least four to five inches forward stick was needed. (Full forward stick and neutralizing lateral movement also may have led to recovery.) Instead, the pilot believed he had 12–15 units on the AOA and therefore reasoned he had experienced a mechanical malfunction.

A long time ago Alexander Pope wrote, "A little learning is a dangerous thing." This aircrew sure could have used more learning about the F-14 in the high AOA environment to avoid a saltwater dunking and loss of a fighter. An AOA indicator in the rear cockpit might have helped, too, along with better crew coordination.

*And the
Great Gramps says:
a LITTLE learning
is a dangerous thing!*



Iroquois Nightmare

An LHA-based UH-1N *Iroquois* was scheduled for a raid escort mission on a very dark night at sea. Prior to launch, the mission was changed to a medevac. In addition to the pilot in command (left seat) and copilot, on board were a patient, secured to the deck in a litter; an aerial observer and a crew chief, seated in the left and right forward-facing seats, respectively; and a physician, who occupied the center forward-facing troop seat.

Cleared for takeoff from Spot 3, the *Iroquois*, with the copilot at the controls, rose from the deck into a hover and, as planned, slid to the right. It began a transition to forward flight, never gaining more than 20 feet above deck height.

Just after takeoff, the pilot in command reached up and dimmed the instrument console lights. He also transmitted corrections to the copilot's nose and wing attitude. The copilot was hesitant to lower the nose because he didn't feel he had sufficient altitude to do so—although he did not report this apprehension to the crew. Meanwhile, the aircraft was descending slowly.

The pilot did not notice his altitude until the UH-1N was 30 feet from the sea surface. The squadron CO was on the ship's bridge and recognized the *Iroquois* was in trouble but had no immediate means to warn the crew.

At 30 feet, the pilot saw 100 percent torque and felt there was nothing he could do. There was neither loss of control effectiveness nor vibration as the aircraft continued its descent and impacted the water in a slightly nose-up attitude. The tail boom struck the surface, decoupling the tail rotor drive train and causing the aircraft to yaw to the right. There were no flames or explosions signifying mechanical problems prior to impact.

All hands but the physician egressed and were saved. The crew chief had unstrapped the patient, enabling him to escape. The physician was discovered unconscious on the surface but resuscitation efforts by rescue personnel were unsuccessful.



Grampaw Pettibone says:

Jumpin Jehoshaphat! Fly the bird, folks, fly the bird!

These aviators conducted a good brief and the pilots were well qualified for a night carrier mission. What they didn't do is focus on the basics of a night instrument takeoff from the ship—which takes every ounce of intensity and concentration one can muster no matter what kind of aircraft you're flying.

When the pilot reached up to dim the console lights—prematurely in the opinion of Ole Gramps—it became a distracting gesture at a critical point in the liftoff sequence.

The copilot, at the controls, became apprehensive about altitude while very busy in the cockpit. This concern detracted from his focus on flying at a most crucial time. That old culprit "situational awareness" paid a deadly visit to the *Iroquois*. This crew literally flew the helo into the water.

The air boss and the tower representative had access to radios, but were unable to warn the *Iroquois* because Spot 3 on an LHA is not easily visible from the tower.

The bottom line is this: don't allow yourself to be bewildered, especially on dark nights on the high seas. Fly the aircraft, scan the instruments, aviate!

Aviator Flag News

RAdm. Joseph J.

Dantone, Jr., has orders to the CNO staff as Director, Air Warfare (N88), in November 1995. He will replace **RAdm. Brent M. Bennitt** who has been nominated for his third star to become Commander Naval Air Force, U.S. Pacific Fleet. RAdm. Dantone is currently Deputy Director for Operations (National Systems Support), J-3NSS, Joint Staff.

Aircraft Carrier is Oldest Active Ship

On 30 June, *Independence* (CV 62) became the oldest ship in the Navy's active fleet and the first carrier in history to hold that distinction. *Indy's* CO, Capt. David P. Polatty III, was presented the "Don't Tread on Me" Navy Jack in a formal ceremony 1 July. The Revolutionary War-era flag has flown from the forward jackstaff of the oldest active ship in the fleet since 1977. It was received from *Mauna Kea* (AE 22) following her decommissioning ceremony 30 June. The 36-year-old *Independence*, commissioned in 1959, is the Navy's only forward-deployed aircraft carrier and is home-ported in Yokosuka, Japan.

Hotline Available to Report Gulf War Illnesses

At the direction of Defense Secretary William J. Perry, the Department of Defense (DoD) established a telephone hotline to enable military and civilian personnel who served in the Persian Gulf region after August 1990 to report incidents they believe may

have led to medical problems. The hotline number is **(800) 472-6719** and operates between 0800 and 2300 eastern time. DoD operates a separate hotline at **(800) 796-9699** for military members and their families to register for medical examination and treatment. Those Gulf War veterans who have left active duty or retired may call a Veteran's Administration hotline at **(800) 749-8387**.

F-14 Digital Flight Control Testing Begins

An F-14D from NAW-CAD Patuxent River, Md., flew for the first time 14 July using a new Digital Flight Control System (DFCS) designed to protect aviators against unrecoverable "flat spins" and carrier landing mishaps. Since the *Tomcat's* introduction in the early 1970s, aircraft losses as a result of departures from controlled flight during high angle of attack maneuvering and carrier landing mishaps have been well documented. The F-14 can rapidly generate excessive yaw rates during high energy departures, and flying qualities in the approach configuration make the aircraft difficult to land aboard a carrier. The DFCS will replace the analog stability augmentation system and autopilot in the F-14, while utilizing the hydromechanical flight control systems already in place. The new flight control computer commands are designed to automatically apply anti-spin flight control inputs as angle-of-attack and yaw thresholds are exceeded. DFCS also includes aileron-to-rudder interconnect logic to minimize dutch roll characteris-

tics and make heading control easier during landing. Lt. Scott Kelly was the test pilot for the first 1.6-hour flight test of the system, which focused on aircraft stability and approach/landing characteristics, while Cdr. William Mnich was the radar intercept officer and project officer. Mr. Frank Pennington is the team leader of a group that will conduct 30 to 50 additional flight tests.

DarkStar Unveiled

The Department of Defense unveiled the low observable Tier III Minus unmanned aerial vehicle (UAV), known as DarkStar, 1 June in a ceremony held at Lockheed's Skunk Works in Palmdale, Calif. DarkStar is one of two high-altitude UAVs being developed for the Defense Airborne Reconnaissance Office by the Advanced Research Projects Agency's joint UAV program office. A Lockheed and Boeing team is developing the system, with each company responsible for about 50 percent of the development program. The drone is expected to cost about \$10 million and fly for the first time later this year. Flight testing is scheduled to be completed in mid-1996 followed by integrated exercises with the military services. DarkStar's operational goal is to survive while penetrating high-threat environments. It will be able to loiter over a target area 500 miles away from the launch site for over eight hours at an altitude of more than 45,000 feet. With a fuselage length of 15 feet and a wingspan of 69 feet, the aircraft is powered by a single Williams

International FJ44 turbofan engine. Complementing DarkStar is the Tier II Plus, which will be optimized for long range and endurance in a low-to-moderate threat environment. Both vehicles will be capable of fully autonomous takeoff, flight and recovery; dynamic retasking while in flight; and operation in the same force structure.

Coast Guard Acquires New Imagery Processing System

HU-25B *Guardian* "AirEye" crews began training in September on the use of the Coast Guard's new video telesurveillance system. This system will collect, digitize and transmit imagery from aircraft stations, and it should dramatically reduce the time required to relay precise intelligence data on incidents at sea that may require a Coast Guard response. Mission applications include marine environmental protection, such as relief for oil spills, and international law enforcement, such as counternarcotics. The system, which uses an 18-pound Toshiba 6600C laptop computer and specialized software called "Northrop View," can integrate data from four different input sources: side-looking airborne radar, infrared/ultraviolet images, full-motion video and high-resolution digital still images. The Coast Guard has purchased six units for the AirEye mission and will operate the system from aircraft based out of USCG Air Station, Corpus Christi, Texas.



The Beechcraft MkII is the winner of the JPATS competition.

Raytheon's Beech MkII Wins JPATS

Raytheon Aircraft Company won the Navy and Air Force's Joint Primary Aircraft Training System (JPATS) competition with its Beech MkII turboprop aircraft. It will replace primary trainers in both services and will be delivered to the Air Force in 1999 and to the Navy in 2002. The aircraft is an advanced turboprop trainer based on the Swiss Pilatus Aircraft PC-9 design and is powered by a Pratt & Whitney PT6A-68 engine. It has a stepped tandem seating arrangement and is fully acrobatic. Maximum sea level speed is 270 knots true with a takeoff distance of 1,775 feet at sea level. Other features include ejection seats, improved birdstrike protection, electronic flight instrumentation and digital displays, and a pressurized cockpit. The contracts for procurement of 711 aircraft (372 Air Force, 339 Navy) and logistics support are worth up to \$7 billion. The planes will be built in Wichita, Kans.

Initial awards of the contract could be delayed for up to four months following protests by firms representing two of the five losing aircraft. Both Cessna and Rockwell have filed protests with the General Accounting Office.

Other contract competitors were Northrop Grumman, Lockheed Martin and Vought.

Aircraft Mishaps

Three VA-165 sailors based at NAS Whidbey Island, Wash., were killed 27 May when their **Cessna 172** crashed after clipping a power line in the desert near NAS Fallon, Nev. A fourth sailor survived the crash and underwent surgery after being pulled from the wreckage. AO1 Christopher W. Pantelopoulous (reported to be the pilot), AOANs James E. Pedersen and Erik R. Bess were killed in the crash, while AOAA Timothy S. Moseley survived. The sailors were in training at Fallon.

A VS-33 **S-3B**, on a routine training mission from *Nimitz* (CVN 68), crashed into the Pacific 21 July. All four crew members ejected approximately 130 miles west of North Island and were recovered after less than an hour in the water by an SH-60F belonging to HS-8, also on board *Nimitz*. The four crewmen, who escaped serious injury, were: LCdr. Paul Hennes, mission commander; Lts. Scott Morrissey, pilot, and Mary Keiming, co-tactical coordinator; and AW1 Charles Colvin, sensor operator. The rescue was accomplished by LCdrs. Bill Kuhns and Jim Kruse, AW2 Sean Milligan and AW3 Willis Pope. Three other HS-8 helos and one VAW-112 E-2C *Hawkeye* participated in the search effort.

International News

China's Air Force of the People's Liberation Army ordered 24 Sukhoi Su-27 *Flankers* to supplement the 26 already in operation at Wuhu air base, Anhui Province. Deliveries should

begin this year for the 22 single-seat fighters and 2 dual-seat trainers and be completed by the end of next year.

The Sukhoi Design Bureau of **Russia** readied its 11th Su-35, a derivative of the Su-27, for its first flight utilizing axisymmetric thrust-vectoring engine nozzles. The two nozzles can be deflected about 15 degrees in all directions and are expected to both improve aircraft agility and increase maneuverability at high angles of attack. Sukhoi is also experimenting with a right-hand side stick controller for the Su-35 and has modified an Su-27 to test the system.

The **Czech** government will purchase 72 new L-159 attack and light fighter aircraft for its air force. The majority will be single-seat, but a small number will be dual-seat trainers. In the future the L-159 will form about 75 percent of the air force's combat inventory alongside a high-performance, multi-role fighter which has not been selected. First deliveries are planned for 1998.

Eritrea received six Valmet L-90 TP RediGOs for its fledgling air force. These aircraft joined four HAMC Y-12 light transports and an Astra SP, which comprise the known forces of the republic.

Malaysia received its first Mig-29 *Fulcrums* for its air force, which were delivered by air freight from Russia and assembled by Russian technicians. A total of 16 single-seat and 2 twin-seat aircraft will be acquired to replace Northrop F-5Es now in service.

The first two of eight Lockheed P-3C Update III *Orions* were delivered to the **Republic of Korea** navy. The remaining six aircraft will be delivered by

the end of the year. Crews were trained by VP-30 at NAS Jacksonville, Fla.

Taiwan received the first of four Northrop Grumman E-2C Group II *Hawkeyes*, which will be part of the country's air defense upgrade program. The remaining aircraft will be delivered by mid-1996.

France signed a long anticipated order for two E-2C *Hawkeyes* and is expected to order another two at a later date. The aircraft will operate from the carrier *Charles de Gaulle* scheduled to be commissioned in 1999.

The **Romanian** government and Bell Helicopter Textron agreed to jointly produce 96 AH-1F *Cobra* attack helicopters with deliveries between 1999 and 2005. The aircraft will be built in Romania with Bell providing technology, production tooling and training support.

Lithuania's air force expanded its transport capability with the purchase last November of one An-24B *Coke* and three An-26RV *Curls* from Lithuanian Airlines. The aircraft are being repainted in a gray, green and brown camouflage scheme at the Antonov plant in Kiev.

The **Japanese** Maritime Self Defense Force retired its last HSS-2B variant of the *Sea King* helicopter from shipboard service in late April. The aging HSS-2Bs will continue in service with land-based squadrons. The SH-60J, the Japanese-built version of the U.S. Navy *Seahawk*, will be the replacement used aboard escort flotillas. One of these SH-60Js crashed 4 July during a night training exercise 50 miles east of the coast of Hokkaido. The pilot was reported missing, but the engineer and copilot were rescued.

Disestablished



HC-1 Fleet Angels

Helicopter Combat Support Squadron (HC) 1 was disestablished in a 29 April 1994 ceremony at NAS North Island, Calif., after 46 years of service. Capt. John W. Mullarky was the last skipper of the *Fleet Angels*.

HC-1 was established at NAS Lakehurst, N.J., 1 April 1948 as the Pacific Fleet's first operational helicopter squadron, Helicopter Utility Squadron (HU) 1. Soon, the squadron moved to Naval Auxiliary Air Station, Ream Field, Imperial Beach, Calif., where it remained until 1976.

As a pioneer helicopter squadron, HU-1 pushed the threshold of naval helicopter operations over its long history. Its detachments served throughout the Pacific and Indian oceans performing such duties as search and rescue (SAR), ice reconnaissance, medical evacuations, vertical replenishment, guided missile and torpedo recovery, gunfire spotting, mine sweeping, radar calibration, geographic surveys, personnel transfers, photoreconnaissance and space capsule recovery.

HU-1 proved the helicopter's value in combat rescue during the Korean Conflict. Deploying detachments of HO3S-1 helicopters on board carriers operating off Korea, HU-1 flew sorties into enemy ter-

ritory to rescue downed aircrews. One HU-1 pilot, Lt. John M. Koelsch, was awarded the Medal of Honor for an attempted rescue (he was downed and evaded capture for nine days, later dying in captivity).

After the Korean Conflict, HU-1 steadily grew as the value of the helicopter increased in the fleet. A wide variety of newer helicopters joined the squadron, such as the HSL-1, HTE-1, HUL-1/1M (UH-13P/R) and HUK (UH-43C), but the most capable types were the HO4S-1/3 (UH-19F) and the HUP-1/2/3 (UH-25A/B/C); the latter was used as the primary plane guard helicopter on board aircraft carriers. In January 1963 the squadron entered the jet age when it acquired the turbine-powered UH-2A/B *Seasprite*, which replaced the UH-25 aboard carriers. In July 1964 HU-1 received the first UH-46A *Sea Knight* vertical replenishment helicopters. Until the mid-1960s, the squadron also operated the RH-3A, CH-19E, UH-34D/E and SH-34G.

On 1 July 1965, HU-1 was redesignated HC-1. The UH-2 plane guard detachments deployed with carriers and launched strikes into Vietnam and Laos. In July 1966 Detachment 29 was formed at Vung Tau, Vietnam, flying ex-Army UH-1B helicopter gunships to support Operation Game Warden patrols in the Mekong River delta; it eventually grew into four detachments. Coincident with increased Navy involvement in Southeast Asia, HC-1 had grown so large that the Navy established four other helicopter squadrons formed from

HC-1 detachments. The gunship detachments became Helicopter Attack (Light) Squadron 3 on 1 April 1967. On 1 September 1967 three squadrons were split off from HC-1: the UH-46 vertical replenishment role was vested in HC-3; the noncarrier deploying UH-2 detachments were assigned to HC-5; and the combat SAR and mine-sweeping detachment staged at NAS Atsugi, Japan, and Cubi Point, R.P., became HC-7.

The streamlined HC-1 continued deployments to the Vietnam war zone through 1975. The single-engine UH-2A/Bs were steadily replaced by twin-engine UH-2Cs; HC-1 UH-2 dets made a total of 50 combat deployments to Vietnam. When most H-2s were transferred or converted to SH-2 configuration beginning in 1969, the SH-3A/G *Sea King* took over the carrier plane guard role, as well as the squadron's Japan-based Detachment 6 that provided transportation to Commander Seventh Fleet. The squadron's SH-3 detachments made 15 combat deployments by the end of 1974.

HC-1 moved to NAS North Island in 1976. The advancement of the CV concept in the early 1970s spelled the end of routine plane guard detachments on board carriers; this role was assumed as a mission of the helicopter antisubmarine squadrons assigned to carrier air wings, also flying the SH-3. This development greatly reduced the assignments of HC-1. However, during the 1970s, HC-1 provided extensive recovery services for the U.S. space program, including recovery of the

Apollo 15, 16, and 17 crews and Skylab II, III and IV missions.

By the late 1970s, except for the detachment in Japan, HC-1's operations remained largely in the southern California operating area. In 1978 HC-1 assumed responsibility for torpedo recovery in the Southern California Offshore Range, and in 1980 assumed control of the West Coast SAR Swimmer School. In 1984, the squadron acquired CH-53E *Super Stallion* heavy-lift helicopters to augment its SH-3G fleet. In 1989 HC-1 took over duties as the Fleet Readiness Squadron (FRS) and Fleet Readiness Aviation Maintenance Personnel (FRAMP) training unit for utility H-3 personnel.

With the build-up of forces in the Persian Gulf to oppose the Iraqi occupation of Kuwait in 1990, HC-1 deployed two detachments that participated in Operation Desert Storm. One CH-53E det performed vertical onboard delivery to ships in the gulf, while an SH-3G detachment provided a night SAR capability for *Tarawa* (LHA 1). An HC-1 helicopter became the first Navy aircraft to land in newly liberated Kuwait.

HC-1 transferred its CH-53Es in 1992, and on 1 February 1993 turned over its Detachment 6 (the *Lost Boys* in Japan) to Atsugi-based Helicopter Anti-submarine Squadron Light 51. (Det 6 was the Navy's oldest continuously operating detachment and the last of 21 separate dets of HC-1.) HC-2 at NAS Norfolk, Va., assumed the FRS and FRAMP roles for utility H-3s. HC-1 replaced its SH-3Gs with SH-3Ds and SH-3Hs over the last

few years before its disestablishment. Its southern California utility roles were assumed by a reserve squadron, HC-85. Before closing its doors, the *Fleet Angels* had performed over 1,680 rescues.



VF-43 Challengers

A 24 June 1994 ceremony at NAS Oceana, Va., marked the disestablishment (officially 1 July) of Fighter Squadron (VF) 43 after almost 50 years of service. Cdr. Dane Swanson was the last CO of the *Challengers*.

Originally established as VF-74A at NAS Otis Field, Mass., 1 May 1945, the squadron was redesignated VF-74 on 1 August 1945, with *Skull & Bones* as its nickname. Equipped with new F4U-4 *Corsairs*, the squadron went to sea in November 1945 on board *Midway* (CVB 41), making two more short cruises aboard *Midway* the following year. Redesignated VF-1B on 15 November 1946, the squadron made its first deployment to the North Atlantic and Mediterranean in October 1947 on board *Midway*, after being equipped with F4U-4Bs.

On 1 September 1948 VF-1B was redesignated VF-21, as part of Carrier Air Group (CVG) 2, and acquired F4U-5 *Corsairs* for its Berlin Crisis deployment to the Mediterranean on board *Coral Sea* (CVB 43). Converting to the F9F-2 *Panther* jet fighter in 1950, VF-21 joined CVG-6 for two Mediterranean

deployments, one each aboard *Franklin D. Roosevelt* (CVB 42) and *Midway*. After another with CVG-1 on board *Wasp* (CV 18), VF-21 was back with CVW-6, and upgraded to the F9F-5 in 1953 before deploying again aboard *Midway*.

VF-21 switched to the swept-wing F9F-6 *Cougar* in 1954 and deployed to the Med on board *Randolph* (CVA 15) with Air Task Group 181. The squadron equipped with the FJ-3 *Fury* in 1955 and rode *Forrestal* (CVA 59) on its shakedown cruise in 1956. VF-21 made its only deployment to the western Pacific on board *Bennington* (CVA 20) in 1956-57 with FJ-3M versions. Later in 1957 VF-21 became the first fighter squadron to operate the F11F-1 *Tiger* at sea.

A dramatic course change for the *Mach Knockers* (as VF-21 was known) came on 1 July 1959 when the squadron was redesignated Attack Squadron (VA) 43, and became a unit for training replacement pilots to fly A4D (A-4) as well as F11F aircraft at NAS Oceana as part of Replacement Carrier Air Group 4. The *Challengers* flew all fleet versions of the A-4 through the A-4E *Skyhawk* in the training role, and later operated TA-4F/J two-seat versions.

With the phaseout of the A-4 from Atlantic Fleet carriers, VA-43 began providing instrument training to jet pilots based at Oceana, using TA-4F/J. In 1970 this role led it into providing limited aerial combat adversary training for East Coast squadrons. By 1973 this mission became primary for the *Challengers*, and the squadron was redesignated VF-43 on 1 June.

VF-43 would fly the A-4E and TA-4J for the next 20 years, but added a variety of supersonic jets to its inventory over that time. The T-38A *Talon* was acquired in 1975, followed by the similar F-5E *Tiger II*. These jets were replaced in 1985 by the Israeli-built F-21A *Kfir*, itself replaced by the F-16N and TF-16N *Fighting Falcon* in 1988. In late 1989 the F-5E was reacquired along with the two-seat F-5F.

Beginning in 1979 VF-43 also conducted a spin-recovery training program for East Coast jet pilots using T-2C *Buckeye* jets. With their dissimilar air combat adversary and spin-recovery training, the *Challengers* made lasting and significant contributions to the combat readiness of East Coast carrier squadrons.



NAS Moffett Field

NAS Moffett Field in Mountainview, Calif., was disestablished 1 July 1994 after 62 years of service as a naval air station and Army Air Corps field. Closed as a part of the post-cold war defense realignment, the base continues in national service as Moffett Federal Airfield, hosting aircraft of the National Aeronautical and Space Administration (NASA), the Naval Air Reserve, and the California Air National Guard.

Established in April 1933 as NAS Sunnyvale, the base at the southern end of San Francisco Bay was built among the apricot orchards

to host the Navy's great rigid airships. The landing field was named Moffett Field, after RAdm. William A. Moffett, Naval Aviation Observer and first chief of the Bureau of Aeronautics, who was killed in the crash of the airship *Akron* in 1933. The base became an Army Air Corps training base in 1935, but became a naval air station again on 16 April 1942. Its three airship hangars made it ideal as a blimp base for coastal patrols during WW II.

Following the war, blimp operations were phased out, and Moffett Field became a major Naval Air Transport Service (NATS) base. NATS became the naval component of the Military Air Transport Service in 1948, with some Navy transport squadrons becoming part of Fleet Logistics Transport Wings. Navy crews flew R7V (C-121) and R6D (C-118) transports from Moffett Field into the late 1960s. The first nuclear-capable squadron, Fleet Composite Squadron 5, flying P2V-3C *Neptune* and AJ-1 *Savage* aircraft, was established there. Moffett Field became the Navy's first master jet base and hosted numerous jet fighter squadrons, followed by carrier air wings.

Because of public concern over jet noise in the surrounding communities, Navy jet aircraft were moved in the early 1960s to NAS Lemoore in central California. Moffett Field saw no decline in importance, however, because of the Navy's decision to concentrate its patrol squadrons (VP) there as they transitioned to the P-3 *Orion*, beginning in 1963. By 1970, Moffett Field was home to the P-3 fleet readiness squadron (VP-31) and seven operational and one reserve VP squadrons. The field also housed a major NASA facility, the Ames

Research Center, which operated huge wind tunnels and an exotic variety of NASA aircraft, including the U-2, NC-141, XV-15 and the QSRA.

For 30 years, Moffett Field's P-3s deployed overseas and flew surveillance against Soviet submarines in the Pacific. With the base realignment, the active P-3 squadrons were relocated to NAS Barbers Point, Hawaii, and NAS Whidbey Island, Wash. As part of Naval Air Reserve Santa Clara, two reserve squadrons continue to operate from Moffett Field—VP-91, a P-3C squadron, and Fleet Logistics Support Squadron 55, which relocated from NAS Alameda, Calif., and flies the C-130T.



VA-42 Thunderbolts

A 23 September 1994 ceremony at NAS Oceana, Va., marked the disestablishment (officially 30 September 1994) of Attack Squadron (VA) 42, the East Coast A-6 fleet readiness squadron (FRS), after more than 44 years of service. Cdr. Bernard M. Satterwaite, Jr., was the last skipper of the *Thunderbolts*.

Established on 1 September 1950 as Fighter Squadron (VF) 42, the squadron was part of the mobilization for the Korean War (an earlier VF-42 hav-

ing been disestablished in June 1950 on the eve of the North Korean invasion). Equipped with the F4U-4 *Corsair*, the VF-42 *Green Pawns* deployed to the Mediterranean in March 1951 on board *Saipan* (CVL 48). The squadron operated in the North Atlantic for short periods from *Midway* (CV 41) in late 1951 and 1952, cross-decking to *Wright* (CVL 49) on one cruise. VF-42 made one more deployment to the Mediterranean, this time on board *Midway*, returning in May 1953.

On 1 November 1953, VF-42 was redesignated VA-42, assigned to Air Task Group 181 and returned to the Mediterranean on board *Randolph* (CV 15), now flying the new AD-6 (A-1H) version of the *Skyraider*. VA-42 rode *Forrestal* (CV 59) for its shakedown cruise, and in 1956 made a western Pacific deployment on board *Bennington* (CV 20). VA-42 operated in the Atlantic on board *Intrepid* in 1958, being assigned afterward to Replacement Carrier Air Group 12 as the East Coast replacement training squadron for the *Skyraider*.

VA-42's role training pilots to fly the *Skyraider* came to an end in 1962; the squadron transferred its A-1E/H aircraft and became the first squadron to operate the new A-6A *Intruder* all-weather attack jet. VA-42 trained VA-75 (which introduced the A-6 into combat over Vietnam), and trained every other East Coast A-6 squadron. VA-42 also formed the nucleus of the West Coast A-6 training squadron, VA-128, and trained VA-196, the first West Coast A-6

squadron.

As the East Coast A-6 FRS, VA-42 operated most versions of the A-6 over the years (mostly the A-6A, and A-6E and its many improvements), and also operated several TC-4C *Academe* aircraft to train classes of bombardier navigators in radar bombing and navigation. Over the three decades of A-6 training, VA-42's students went on to excel in combat over Vietnam, Grenada, Lebanon, Libya, the Persian Gulf, and Iraq.

In November 1992, VA-42 retired its *Green Pawn* logo and adopted the *Thunderbolt* traditions of VA-176, an A-6 squadron disestablished earlier that year. In 1994, as phase-out of the A-6 from the fleet accelerated, VA-42 transferred its remaining A-6 FRS functions to VA-128 at NAS Whidbey Island, Wash.



VF-124 Gunfighters

Fighter Squadron (VF) 124, the West Coast F-14 fleet readiness squadron (FRS), was disestablished in a ceremony at NAS Miramar, Calif., on 30 September 1994 after 46 years of service. Capt. Thomas G. Sobieck was

the last skipper of the *Gunfighters*.

Established on 16 August 1948 as VF-53, the squadron operated the F4U-4B *Corsair*, and was on station in the western Pacific with Carrier Air Group (CVG) 5 on board *Valley Forge* (CV 45) when North Korea invaded South Korea in June 1950. VF-53 participated in the first strikes against the North. VF-53 returned for two more deployments with CVG-5 to the war zone, one on board *Essex* and one, after transition to the F9F-5 *Panther* jet fighter, back on board *Valley Forge*.

VF-53 made one more deployment to the western Pacific with CVG-5, this time on board *Philippine Sea* (CV 47). Joining Air Task Group 3 in 1955, VF-53 made two more cruises to the western Pacific, one on board *Shangri-la* (CVA 38) flying F9F-8 *Cougars* and one on board *Kearsarge* (CVA 33) flying FJ-3M *Furies*.

On 11 April 1958, VF-53, incorporating elements of VF-194, was redesignated VF-124 as part of Replacement Carrier Air Group 12 and became the West Coast replacement training squadron for the F8U (F-8) *Crusader* supersonic fighter at NAS Moffett Field, Calif. In June 1961, VF-124 moved to NAS Miramar and continued to train *Crusader* pilots and mechanics until 1972; many of its students went on to combat operations over Vietnam and accounted for many North Vietnamese air force losses.

In 1970, VF-124 began supporting the introduction

of the F-14 *Tomcat* into the fleet, and became the first FRS for the F-14. *Crusader* replacement training was transferred to Light Photographic Squadron 63. VF-124 supported the stand-up of the fleet's first operational F-14 squadrons, VFs 1 and 2, in 1972, and began carrier qualification of students in the F-14A in December 1974. In 1976, the *Gunfighters* began training crews from the Imperial Iranian air force to operate the F-14; these students would later see action against Iraq during the 1980s. In 1980, VF-124 incorporated Tactical Air Reconnaissance Pod System training into its syllabi when the F-14 squadrons acquired the photoreconnaissance mission.

VF-124 operated the F-14A throughout its existence as a *Tomcat* FRS, but acquired a few F-14Bs late in the 1980s. In 1990, VF-124 became the FRS for the new F-14D *Super Tomcat* and transitioned VFs 11 and 31 to the new aircraft by June 1992. VF-124 also started an air-to-ground syllabus for the F-14 when the *Tomcat* acquired the strike mission. *Tomcat* Strike Weapons School, Pacific was formed as a department of VF-124, which conducted the Advanced Attack Readiness Program for fleet F-14 squadrons. In 1993, the first F-14 FRS students and instructors dropped live bombs.

With the defense draw-down of the early 1990s, F-14 training was consolidated in 1994 at the East Coast F-14 FRS, VF-101 at NAS Oceana, Va. VF-124 personnel and aircraft

at NAS Miramar were absorbed by VF-101, which maintains an F-14D training detachment there.



VAW-110 Firebirds

A 28 September 1994 ceremony at NAS Miramar, Calif. marked the disestablishment (officially 30 September 1994) of Carrier Airborne Early Warning Squadron (VAW) 110, the West Coast E-2/C-2 fleet readiness squadron, after more than 27 years of service. Capt. Richard F. Braden was the last skipper of the *Firebirds*.

The *Firebirds* were originally established at NAS North Island on 20 April 1967 as Replacement Carrier Airborne Early Warning Squadron (RVAW) 110, formed from the training cadre of VAW-11 when it was split into several VAW squadrons. RVAW-110 trained crews to fly and maintain the E-1B *Tracer* and E-2A and later E-2B *Hawkeye*. In 1974, the squadron also started to provide advanced Naval Flight Officer (NFO) training for student NFOs destined to operate the mission equipment in the E-2 aircraft. July 1975 brought a move from North Island to NAS Miramar.

Although an FRS, RVAW-110 was called upon four times to provide

operational detachments of E-1Bs for deploying aircraft carriers. One of these detachments, on board *Hancock* (CVA 21), participated in the 1975 evacuation of Vietnam; another was on board *Coral Sea* (CVA 43) for the Mayaguez incident. A third rode *Oriskany* (CV 34) on its last deployment to the western Pacific, and a fourth deployed to the Mediterranean on board *Franklin D. Roosevelt* (CV 42) for that ship's last deployment. In June 1977, RVAW-110 retired the E-1B from active service.

In April 1980, RVAW-110 acquired the E-2C with its Advanced Radar Processing System, and began to transition West Coast VAW squadrons to the new aircraft. E-2B training continued until November 1986. On 1 May 1983, RVAW-110 was redesignated VAW-110 to reflect its operational as well as training capability. In December 1987, VAW-110 accepted C-2A *Greyhound* carrier-onboard-delivery (COD) aircraft for training future COD pilots and crewmen. In 1988, the squadron's first E-2C Group I aircraft arrived, with more powerful engines, the APS-139 radar, and enhanced cockpit displays. In 1991, the squadron's first E-2C Group II version was received.

With the defense realignment of the early 1990s, the Navy decided to consolidate E-2/C-2 FRS training at one site, with East Coast FRS VAW-120 at NAS Norfolk, Va. Consolidation was complete by the time VAW-110 was disestablished.



VS-27 Seawolves

Sea Control Squadron (VS) 27, the East Coast S-3/ES-3 fleet readiness squadron (FRS), was disestablished in a ceremony at NAS Cecil Field, Fla., on 29 September 1994 after more than seven years of service. Capt. Mark Kitka was the last skipper of the *Seawolves*.

Established on 21 January 1987 as Air Antisubmarine Squadron (VS) 27, the *Seawolves* were formed from the VS Support Unit (VSSU) at Cecil Field, and carried on the tradition from an earlier VS-27, an S-2 squadron which was disestablished in June 1973. With the advent of the S-3B version of the *Viking*, VSSU's functions had increased to the point where it became a full-fledged FRS.

VS-27, equipped with the S-3A/B, transitioned all East Coast VS squadrons from the S-3A to the S-3B during the late 1980s and early 1990s, and also provided training for the ES-3A version starting in the early 1990s. On 16 September 1993, reflecting the expanded war-fighting capability of the S-3B, VS-27 was redesignated Sea Control Squadron 27 (same VS-27 designation). With the consolidation of FRS training throughout the fleet, VS-27 transferred its mission to the West Coast S-3 FRS, VS-41 at NAS North Island, Calif.

Rick Burgess contributed the disestablishment articles.

NAS Fallon

The frenzy of WW II awakened the high Nevada desert to the sounds of war. With the attack on Pearl Harbor, speculation was that the next step in Japan's Pacific push would be the very doorstep of the United States, the shores of California.

While the country was gearing up for the coming years of conflict, the Army was establishing a Western Defense Program to counter any attack on the western United States. As such, four sites in Nevada were selected for inland air strips: Minden, Winnemucca, Lovelock and Fallon.

Naval Air Station (NAS), Fallon traces its origins to 1942 when the Civil Aviation Administration and the Army Air Corps began construction of two 5,200-foot runways and associated lighting systems. Construction was completed in December of that year at a cost of \$464,000.

As the war in the Pacific developed, the Navy recognized a need to train its pilots in a realistic environment using all the tactics and weapons being developed at the time. Fallon offered existing runways, large land areas for bombing practice and exceptional flying weather year round.

In 1943 the Navy assumed control of the facilities at Fallon and began construction of barracks, hangars, air traffic control facilities and target ranges. The station sported a torpedo bombing range near Pyramid Lake and operated three satellite fields. Soon after taking its first customers, base officials realized that more free gunnery ranges were needed, as well as rocket bombing and ground strafing targets; thus, the Lone Rock range (currently known as Bravo 20) was established that year.

Naval Auxiliary Air Station (NAAS), Fallon was established on 10 June 1944 (under the command of Naval Air Center, Alameda, Calif.) and training began in earnest. During the first six months of 1945, 21,393 landings and takeoffs were recorded along with over 12,000 flight hours on the bombing ranges.

Ironically, just as construction of the initial airfield projects was completed and the training program was operating in full gear, the war in the Pacific ended and brought an untimely end to NAAS Fallon. Eight months after the completion of a new 24-unit housing project, five months after a new gym was built and only three months following the opening of a new commissary, NAAS Fallon was placed in a "reduced operation status." On 1 February 1946 the facility's status was further reduced, and on 1 June the naval auxiliary air station was placed in caretaker status.

For the next five years, the facility was used by the Bureau of Indian Affairs. Buildings, once inhabited by pilots preparing to meet the challenge of a pitching carrier deck, disappeared. The swimming pool, once used by sailors to escape the Nevada summer heat, became a home for pigs.

With the beginning of the Korean War, the need developed for proper training facilities for new, sophisticated jet aircraft. Life returned to the small desert installation as the Navy started renovating the site in 1951, designating Fallon as an auxiliary landing field for NAS Alameda. On 1 October 1953 the field was again upgraded to a naval auxiliary air station. A new 10,000-foot runway was completed and additional appropriations were used to buy land for gunnery ranges in 1955. A new hangar and living and recreation facilities were added in 1956.

The U.S. Air Force 858th Air Defense Group moved to NAAS Fallon in 1956 at the same time that a new galley and barracks were built. The Air Force maintained a command at Fallon for the next 19 years.

By 1957 the Bravo 16 gunnery range, complete with electronic scoring capability, was in operation. During this period the young air station was averaging 130 takeoffs and landings each day.

A dedication ceremony, held 1 November 1959, named NAAS Fallon's air field in memory of LCdr.

Bruce A. Van Voorhis, a Fallon native who received the Congressional Medal of Honor posthumously after sacrificing his life in the South Pacific during WW II. That day, the station commissioned a new 14,000-foot runway, which caused Highway 50 East to be rerouted to accommodate it.

The 1960s held many firsts for NAAS Fallon. In November 1966, the first woman service member was assigned to the air station. A month later, operations of the Bravo 17 range came to a halt during an invasion of "alien" creatures. For the first time in Fallon's history, Naval Aviation was interrupted by five cows that wandered onto the range and would not leave. Pilots made several low passes to persuade the cattle to move but to no avail. Sailors in trucks finally rounded up the cows and operations resumed.

The station's electronic warfare range was completed on 15 November 1967. Able to simulate ground-to-air missiles and enemy aircraft, the range provided pilots with training essential to save lives during combat. By September 1969 more than 20,000 runs had been completed on the electronic warfare range.

By 1970 the station's training capability was being tested as more than 55,000 takeoffs and landings were recorded and more than 11,000 tons of munitions expended by visiting squadrons.

NAAS Fallon was functioning in all respects as a major command, and on 1 January 1972 the Navy made it official by designating the base as a naval air station. In March a detachment from VA-122 arrived from NAS Lemoore, Calif., becoming the first permanent squadron det based at Fallon. The 60,000th run on the electronic warfare range occurred on 21 October 1974. A chapel, administration building, more barracks, a chiefs'

NAS Fallon: "The Biggest Little Air Station in the World." The air station's nickname evolved from its close proximity to Reno, which is billed as "The Biggest Little City in the World."

"The Biggest Little Air Station in the World"





club and extensive infrastructure improvements were undertaken in the 1970s.

During the 1980s, the air station experienced its most dramatic growth. In late 1985 the Naval Strike Warfare Center was established. Two new hangars, a parallel runway, an ordnance loading pad, new ordnance buildings, a new refueling facility and additional bachelor officer and bachelor enlisted quarters were built.

NAS Fallon received a new computerized aid to aircrew training in 1985 with the arrival of the Tactical Aircrew Combat Training System (TACTS). TACTS allows aviators to train in realistic air-to-air combat and air-to-ground situations in a classroom setting without ever firing a live shot. The system provides squadrons, carrier air wings and students from the Naval Strike Warfare Center with

real-time, graphic displays of their missions, eliminating guess work and helping aircrews continually improve.

In 1987 a state-of-the-art air traffic control facility was constructed. Strike Fighter Squadron 127, the *Desert Bogeys*, moved to NAS Fallon in 1987, becoming the only Navy squadron permanently based in Nevada.

All of these improvements have played a key role in the facility's contributions to America's crucial military exercises since the end of the Vietnam War. The training accomplished at NAS Fallon added to the successes of the attack and occupation of Grenada, the downing of two Libyan jets in the Gulf of Sidra, the interception of an Egyptian airliner carrying Palestinian terrorists in the Mediterranean, and the highly integrated and successful strikes on Libya.

Today, the air station operates and maintains four bombing ranges and an electronic warfare range. There is also a complete air facility to provide visiting squadrons and air wings with ordnance, fuel, air traffic control, maintenance spaces, berthing and other assistance necessary for accomplishing the vital training conducted at Fallon.

As the 1990s began, quality-of-life issues became the focus as new facilities and existing ones were targeted for upgrade. A new commissary and exchange complex, 80 units of new housing, a youth activities center, a Navy Lodge, an additional BEQ complex and many other projects have been completed recently.

By 1996 the Navy Fighter Weapons School (Top Gun), Carrier Airborne Early Warning Weapons School, Fighter Composite Squadron



A CH-54 takes part in NAS Fallon range maintenance operations.

The HH-1 "Huey" serves as the mainstay of the NAS Fallon Search and Rescue team.

Naval Air Station/Facility Series

13 and Construction Battalion Unit 416 will relocate to NAS Fallon, filling up BOQ, hangar and academic instruction facilities currently under construction.

As military "rightsizing" continues through the 1990s, NAS Fallon will play a larger and more important role in tactical training and readiness for the U.S. Navy, Marine Corps and Air Force. The future is bright for NAS Fallon, the "Biggest Little Air Station in the World," as it prepares to meet future challenges. ■

The NAS Fallon Public Affairs Office contributed this article.

Fallon residents do a lot of summertime boating on the lakes of northern Nevada.



NAS Fallon

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2700
2700
2855

Tenant Commands and Support Activities

Department of Defense

Branch Dental Clinic, Fallon
Branch Medical Clinic, Fallon
Center for Naval Tactical Warfare
Defense Commissary Agency
Explosive Ordnance Mobile Unit 9, Detachment Fallon
Naval Criminal Investigative Service
Naval Pacific Meteorology and Oceanography Detachment
Naval Strike Warfare Center
Naval Warfare Assessment Center
Navy Exchange
Personnel Support Activity, Detachment Fallon
Resident Officer in Charge of Construction
Strike Fighter Squadron 127
Strike Fighter Weapons Detachment

Non-Department of Defense

Ahntech Corporation
Alfa Federal Credit Union
Applied Technologies, Inc.
American Federation of Government Employees
Dyncorp Government Systems Group
Embry-Riddle Aeronautical University
Harris Corporation
International Association of Fire Fighters
J. L. Associates
Lockheed Aircraft Maintenance Systems
Loral Aerospace Corporation
Maytag Corporation
National Car Rental
Northrop Grumman Corporation
Raytheon Aerospace
UNC/Lear Siegler, Inc.
U.S. Post Office

Incoming Units (FY 1996)

Carrier Airborne Early Warning Weapons School
Construction Battalion Unit 416
Fighter Composite Squadron 13
Navy Fighter Weapons School (Top Gun)

NAS Key West, Fla., will appear next in our Naval Air Station/Facility Series. Public Affairs Officers are encouraged to contact the Editor for scheduling.



Skiing above Lake Tahoe is a popular winter pastime.

Base and Local Area Recreation

NAS Fallon

NAS Fallon's Morale, Welfare and Recreation Department offers a wide variety of leisure activities for the sports and recreation enthusiast.

For those who enjoy the outdoors, Pony Express Outfitters offers a full range of camping gear, mountain bikes, snowboards and skis, hunting and fishing licenses, boats and other recreational equipment for rent. They will also provide maps and brochures of local camping and fishing sites.

Outdoor sports facilities on base include a lighted basketball court and softball field, a football field, outdoor and indoor swimming pools, two unlighted softball fields, two lighted tennis courts and lighted sand volleyball courts.

The go-kart track is equipped with "Formula K" go-karts that travel on a quarter-mile banked cement track. An arcade, snack bar, batting cages and computerized golf driving range are located next to the go-karts.

Fitness fanatics can enjoy the gym with its basketball and racquetball courts and free weights, or the state-of-the-art fitness center which is fully furnished with Nautilus weight equipment.

Northern Nevada

Situated in the Lahontan Valley, 60 miles east of Reno and the Sierra Nevada mountains, NAS Fallon is located in the midst of one of Nevada's top agricultural areas. Although irrigation has altered the valley, it's the high desert scenery and rugged mountains that attract people.

Nevada has a rich old west history. Pioneers traveled through the state on their way to California. Miners were lured here by the promise of gold and silver riches. Native Americans have lived in the Great Basin since prehistoric times, leaving their mark and culture for future generations.

Local points of interest within a 90-minute drive from NAS Fallon include:

Lake Lahontan — Created in 1905 as part of the Newlands Reclamation Project, the lake is a popular recreation spot featuring camping, swimming, boating and fishing. It is located 20 miles from the air station.

Pyramid Lake — This 26-mile-long lake is rated one of the best trophy trout fisheries in the world; fishermen regularly catch 5 to 16-pound trout. Anaho Island National Wildlife Area, located in the center of the lake,

is one of eight white pelican nesting areas. Cormorants, gulls, blue herons and Caspian terns also nest on the island.

Sierra Nevada Mountains — Truly a sportsman's paradise, the Sierra Nevadas offer something for everyone: hiking trails, bike paths, boating, fishing and panning for gold. When the snow flies, downhill and cross-country skiing is available at numerous area ski resorts, such as Squaw Valley.

Lake Tahoe — The gem of the Sierras is Lake Tahoe, which straddles the California-Nevada state line. Boating and fishing are popular on the lake in summer, and skiing is the winter activity at the resort.

Virginia City — Once a booming town built by prospectors, Virginia City is now a popular tourist attraction featuring shops, saloons and historical sites. Interestingly, many mines in the area still produce ore. Don't miss the camel races or chili cook-off events in the summer.

Reno — "The Biggest Little City in the World" offers 24-hour gambling and night life, as well as cultural and recreational events, shopping and museums.

Quality Assurance Safety is Job One

By JO2 Jerry Knaak

In 1980, the Ford Motor Company adopted the slogan "Quality is Job One." The company lived up to its motto with marked improvement in the quality and reliability of Ford cars and trucks. In recent years, the Navy has strived to adopt Dr. W. Edwards Deming's philosophy of leadership known throughout the Department of the Navy as Total Quality Leadership (TQL). In Naval Aviation, however, quality is not something that has been adopted because of a steadily decreasing profit margin or just because it is viewed as a better way of serving the customer. Quality maintenance has been a requirement for safe operations from the very beginning.

Even in the earliest days of Naval Aviation, when the contracting of manufacturers to build aircraft for the Navy was a new concept, Quality Assurance (QA) measures were established. The Bureau of Aeronautics formed a Navy Trial Board circa 1917 which determined the suitability of aircraft for naval service, thus setting a precedent of quality.

The diversity of tasks (QA manages 6 and monitors up to 23 different programs) which encompasses its role in Naval Aviation makes a QA shop unique. From reminding young sailors to fasten their cranial chin straps before they fall off an airplane and crack their skulls on the hangar bay deck, to mulling over a month's worth of quality deficiency reports wondering why the same tool breaks repeatedly, there's never a dull

moment for QA representatives (QARs).

Simply, Quality Assurance means just that. The people assigned to a QA shop assure the quality of the aircraft, equipment, tools, procedures and the training of personnel required to accomplish that activity's mission. Aviation Structural Mechanic-Hydraulics First Class J. C. Grimes is the QA Leading Petty Officer of Fighter Squadron (VF) 102, NAS Oceana, Va. He said, "We prevent the reoccurrence of defects, analyze trends with bad aircraft systems, qualify and disqualify collateral duty inspectors (CDIs) and monitor the tool control program." Grimes added that VF-102's QA shop administers the squadron foreign object debris (FOD) walkdown program, the goal of which is to ensure that no stray items from tools to shirt buttons find their way into engine intakes or flight controls.

QA's unique mission requires close communication and coordination with maintenance control and with every work center. This is accomplished in a variety of ways. "We have a representative from almost every shop," Grimes said, "and everyone is a subject-matter expert in their field." This equal representation is critical to each QAR's understanding of aircraft systems. The shop often becomes a symposium of comprehensive cross training, which makes it a much sought after assignment. In addition, the QA shop interacts with the work centers through the CDI program.

CDIs must be an E-5 or above and be recommended by the shop super-

visor. Each prospective CDI then must complete an extensive personnel qualification standards program and finally be approved by QA through examination.

CDIs inspect aircraft and systems after a maintenance action has been performed to ensure proper procedures were followed by the technician. The CDI is also responsible for tool container inventory at the beginning and end of each shift.

The Quality Assurance shop plays a major role in monitoring each activity's tool control program. This program is not only important as far as the maintenance effort is concerned, it saves lives. According to Lieutenant (jg) David A. O'Brien, Attack Squadron (VA) 34's Maintenance/Material Control Officer, the whole world stops when a tool is discovered missing. "Tool control is essential to flying safe airplanes," O'Brien said. "Nothing happens, nothing flies until the lost tool is found."

Once a tool is reported missing, QA enlists the help of the other shops and leaves no stone unturned in order to find the wayward speed handle, screwdriver, etc. This is also true of broken tools, such as the type designed to break before damaging the fastener. Every part of the broken tool must be accounted for.

The shop responsible for the broken item routes a broken tool report and files it (through QA) with the tool



control manager, who in turn replaces the tool. If the tool control manager begins to notice a breakage trend with a particular item, he/she will work with QA and process a quality deficiency report. These reports are used to upgrade the quality of the products the Navy buys to fix aircraft and systems.

Any time a flight control access panel is removed on a particular aircraft, a QAR is the last person to inspect the compartment, making sure the area is free of FOD. The VF-102 Maintenance Control Chief, Aviation Machinist's Mate Senior Chief Petty Officer (Air Warfare) Kevin Rounds, said, "Maintenance Requirement Cards require QA to not only inspect finished work but work in progress. They provide the final look for major inspections. QA is involved in the training aspect more now than 20 years ago."

Safety is the essence of Quality Assurance in Naval Aviation. The representatives are constantly trying to

find better ways to get the job done, improve safety conditions and identify alarming trends which need to be addressed before an accident happens. "They are definitely an asset to the squadron. QA makes sure everything is done by the book," Senior Chief Rounds commented. In Naval Aviation, QA is ever vigilant, always on the lookout for potential safety hazards and working to improve the parts, tools and systems that maintenance personnel require to complete the mission at hand.

So, the next time a QA representative tells you to move away from the rear stabilizer because the aircraft is "tail over water" or otherwise reminds you of proper procedures, remember, they know what they're talking about. The professionals in the QA shop have been analyzing and improving quality longer than anyone in today's Navy can remember, and they'll continue to strive for safer, better quality work environments into the 21st century and beyond. ■



JO2 Jerry Knaak

QARs spend as much time in the shop with reference materials as they do actually inspecting the aircraft. VF-102 QA Chief AECS L. Kurt Schmitt checks with the Naval Aviation Maintenance Standard Operating Procedures manual to make sure things are done "by the book."

Cdr. Peter Mersky, USNR (Ret.)

A VAQ-135 QAR emerges from an EA-6B Prowler jet intake aboard America (CV 66) after inspecting it for FOD.



GPS and the Naval Aviator

By Lt. Tony Pang and Capt. John Conkey

If you have read any aviation news periodicals in the last two years, you know that the NAVSTAR Global Positioning System (GPS) appears to be the current proposed solution to all aviation navigation problems. The Federal Aviation Administration (FAA) and Department of Defense (DoD) have embraced GPS as the solution for en route, terminal and nonprecision aircraft guidance in the National Airspace System (NAS) into the next century. Research is ongoing in the precision approach arena, where demonstrations of augmented GPS have yielded favorable results. What is GPS, and how does it work? What is the status of GPS in naval aircraft? Will it ever be more than the odd hand-held unit purchased with coffee mess funds? What is the current CNO policy for use of GPS? This article will attempt to answer those questions and many more, as well as provide topics for ready room discussions. This is the pilot's version; for you engineering types, see the list of references following this article.

The NAVSTAR Global Positioning System is a space-based radio positioning system designed to provide highly accurate, continuous, worldwide position, velocity and time (PVT) information to an unlimited number of suitably equipped users anywhere on or near the surface of the earth. System features include passive operation and two security methods to prevent unauthorized use and enhance jamming resistance. The system is composed of space, control and user segments. The space segment consists of a constellation of 24 satellites in six orbital planes (inclined at 55 degrees), orbiting at an altitude of 10,900 miles. The nominal period of orbit is 12 hours. The satellites follow the same ground track, visible four minutes earlier each day, with at least five satellites in view to any receiver at all times.

The control segment is based at Falcon AFB, Colo., and consists of a master control station, four monitor stations and ground antennas for communications with and control of the satellites.

The user segment consists of any receiver capable of using the GPS signals to provide positioning data. User applications range from vehicle tracking systems to survey equipment that can provide position accuracy to the nearest centimeter. For the aviator, receiver applications vary from hand-held units to a combination of GPS and Inertial Navigation System (INS) equipment integrated within the same housing. Current military receivers are the AN/ARN-151-3A (or 3A for short), the AN/ARN-163 Miniaturized Airborne GPS Receiver and the Embedded GPS INS, which integrates a GPS receiver card with a ring laser gyro.

The satellites broadcast on two frequencies, allowing the receiver software to correct for any atmospheric propagation errors. This provides the user with a greater degree of positional accuracy. To access both frequencies, a user must have a DoD-approved Precise Positioning System (PPS) receiver with the appropriate cryptologic keys installed. Operating without the crypto variables degrades the accuracy to what is called Standard Positioning Service, which is available to all civil users. With a properly keyed PPS receiver, the geographic position can be established within 16 meters Spherical Error Probable, aircraft velocity to within 0.1 meters per second, and Universal Coordinated Time to within 100 nanoseconds. A commercial receiver will establish geographic position within 100 meters, with a 95-percent probability. This PVT data can then be used for tactical applications or Area Navigation.

Why should aviators be concerned with the introduction of this new method of providing positioning data? The Federal Radionavigation Plan (FRP), published biennially by the Department of Transportation and the DoD, currently projects the deactivation of tactical air navigation (TACAN) stations in the National Airspace System. In order to provide navigation capability for DoD aircraft in the NAS, GPS is the preferred external radionavigation aid. The DoD began phasing out other navigation systems,

such as Omega, LORAN-C and Transit, in FY 1994.

The GPS is the designated replacement to cover all navigation requirements, not including precision approach, at this time. However, GPS, augmented by either satellite or ground signals, has achieved performance requirements for precision approaches, and will probably assume that role in the near future.

Flight in the NAS requires equipment and aircraft instrumentation to meet navigational performance standards. These include display of bearing, range and cross track deviation to the pilot; access to a validated navigational data base, such as Defense Mapping Agency (DMA) or Jeppesen data; a computer capable of providing Area Navigation data to the pilot; and satellite integrity monitoring.

Area Navigation permits operations on any desired course in the airspace system, either within the coverage of ground station referenced navigation signals or within the limits of a self-contained system, such as GPS. By knowing the geographic position of the aircraft and the destination waypoint, the GPS can provide navigational guidance. The information is presented to the pilot in the same manner as TACAN information.

The final and evolving portion of the GPS is a validated data base of aeronautical fixes, waypoints and airports. The capability exists today to load waypoints and flight plans for use in the cockpit.

The plan for airspace development is promulgated every two years in the Chairman of the Joint Chiefs of Staff Master Navigation Plan and the FRP. Since the inception of the GPS, the 1992 (latest) FRP shows collocated TACAN and Visual Omnidirectional Range/Distance-Measuring Equipment (VOR/DME) sites deactivated at a rate of 50 per year beginning in 1996. Commander, Naval Air Systems Command is tasked with integrating all naval aircraft with GPS by 30 September 2000. An aggressive integration and test plan is now in effect. The integration at a minimum must allow operation of aircraft in the NAS in accordance with all FAA

GPS Integration Status as of 20 April 1995

Fleet	Testing	Development	Design	To Go
Introduction			Discussion	
C-2A	AH-1W	E-2C +	HH-1N	F-5E/F *
E-2C #	UH-1N	VH-3D	EP-3A/B/J	T-38A/B *
P-3C	UH-3H	S-3B/US-3A	VP-3A	CT-39E/G
EP-3E #	EP-3E	ES-3A +	RP-3A/D	T-39N *
RP-3D #	TP-3C	E-6A +	UP-3A/B	T-44A *
ES-3A #	ES-3A	EA-6B	C-9B/DC-9	
E-6A #	F/A-18C/D	AV-8B DAY	RC-12F/M	
AV-8B NIGHT	T-45A	F/A-18A/B	UC-12B/F/M	
HU-25A/B/C #	CH-46D/E	F/A-18E/F	F-14A/B	
CH-53E	HH-46D	MV-22	C-20D/G	
MH-53E #	UH-46D	SH-60B +	VC-20	
HH-60H/J	MH-53E +	VH-60N	CH-53D	
SH-60B #	HC-130H	TC-130G	RH-53D	
SH-60F		C-130T	TH-57B/C *	
HH-65A				
KC-130F/R/T				

Interim installation, does not meet requirements for navigation in the NAS.

+ Upgrading interim installation to meet requirements for flight in the NAS.

* Possible integration with commercial GPS receiver.

providing accurate navigation. CNO will authorize GPS for use as a primary navigation system once a national airspace data base and an integrity monitoring system have been incorporated in your aircraft. *Navigation with hand-held receivers during instrument conditions is prohibited.*

This article has just scratched the surface of the initiatives and policy decisions being made daily in the GPS arena. The use of GPS in the civil sector is progressing at an unusually fast pace because of pressure from commercial airlines to reduce costs. The plan envisioned for use of the NAS is centered on use of GPS for navigation and autonomous surveillance using GPS, and "freeplay" navigation that takes advantage of direct routing and advantageous environmental conditions. There would be tactical rules for collision avoidance using the Target Alert and Collision Avoidance System and Mode S-equipped transponders. Some of these concepts are being used now in oceanic control areas, and are helping commercial airlines save time and money. ■

The comprehensive plan for integration, testing and fielding is summarized here. Aircraft types listed as operational have completed operational test, and are in the process of being equipped with GPS avionics suites. An interim operational installation does not provide necessary cues to the pilot to navigate in the airspace system, but GPS is installed for operational use. As aircraft are upgraded, they are equipped to navigate in the NAS in accordance with applicable CNO guidance.

clearances. In addition, GPS must be interoperable and transparent to the air traffic control system and with aircraft using other conventional means of navigation.

The civilian sector is currently using GPS for all aspects of en route, terminal and nonprecision approaches. However, their receivers are required by FAA regulations to have Receiver Autonomous Integrity Monitoring (RAIM) algorithms to warn the user if the navigation solution is diverging from truth. Current Navy, Coast Guard and Marine Corps integrations do not have RAIM, and are therefore *not authorized to fly in Instrument Meteorological Conditions (IMC) in the NAS using GPS as a primary source of navigation.*

A look at the nonprecision approach plates by either Jeppesen or DMA will reveal both VOR and GPS approaches. A fact to note is that the GPS waypoints on the plates are not identified by latitude and longitude; it

is mandatory to access these waypoints through a validated data base in order to use this procedure in IMC. The modification of the Tactical Aircraft Mission Planning System to accept this data base from the Defense Mapping Agency will allow Naval Aviators to utilize these non-precision approaches.

Where does that leave us today? The Chief of Naval Operations has issued guidelines for the use of GPS in all naval platforms (CNO WASHINGTON DC R101202Z JUN 94). Navy use of GPS in aircraft is authorized subject to the following conditions: Naval aircraft may use any GPS receiver as an aid to Visual Navigation Conditions. Military receivers, when integrated with the navigation system and keyed, may be used for supplemental Instrument Flight Rules navigation, meaning that there is another primary source of navigation in use in the aircraft to ensure the supplemental system is

For additional information refer to the following sources:

GPS: A Guide to the Next Utility. Jeff Hurn. Trimble Navigation, 1989.

Satellite Navigation with the Global Positioning System. Steven D. Thompson. Interstate Electronics Corporation, 1986.

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CJCS Master Navigation Plan. CJCSI 6130.01 of 20 May 1994.

Chief of Naval Operations GPS Integration Guidance.

Lt. Pang is currently assigned as the Assistant Program Manager for GPS Test and Evaluation at the Space and Naval Warfare Systems Command, Navigation Systems Program Office (PMW/A-177). Capt. Conkey is a Naval Reserve Aerospace Engineering Duty Officer assigned as Commanding Officer, NR AIRSYSCOM 0166 at the Naval Air Systems Command.

C-12

By Hal Andrews

"Twin Beeches" have been mainstays of Naval Aviation as advanced trainers and utility-transport aircraft since WW II. While not as numerous as their predecessors in the days when they supported proficiency flying, today's C-12s (with their T-44 cousins) are still ubiquitous. Like the official names of their "round engine" predecessors, the C-12's official name, *Huron*, is only a reference. Even Beech's present corporate entity, Raytheon Aircraft, recognizes that Beechcrafts have their own name recognition.

In today's environment, jointness and buying off-the-shelf commercial products are major thrusts in military procurement. With current C-12s, as with past Twin Beeches, that's how it has been done. While many Beechcrafts have found their way into one or another U.S. or foreign military service, the C-12s as U.S. military aircraft have met these current objectives starting with the first Army-Air Force joint competitive procurement back in the 1970s. When UC-12B procurement for the Navy and Marine Corps was added on, the *Super King Air 200s*, as military C-12s, became fully joint-service aircraft.

The commercial *Super King Airs* are products of a long Beechcraft evolution, initially underway in the aftermath of WW II production. Looking ahead, Beech followed two primary paths: continuing to produce updated civilian models of the

wartime Twin Beeches; and developing a light single-engine design, the four-place *Bonanza*, for the anticipated personal plane market. Both ventures were successful. The former also subsequently led to the remanufacturing of hundreds of WW II military Twin Beeches for the Air Force and Navy in the 1950s. The *Bonanza* not only became one of the most popular four-place light planes in continued production, but also led to light twin-engine Beech models. In addition, it was the basis on which the T-34 *Mentor* primary trainers were developed—to be used by both the Air Force and Navy. The subsequent T-34C *Turbo-Mentor* is currently the Navy's primary trainer.

The Army, building up its aviation fleet in the 1950s, made extensive use of Beech's light twin models—taking advantage of their increased capabilities, as larger engines and other improvements were incorporated, and adapting some for various sensor missions. When smaller turboprop engines became available, the Army sanctioned Beech's adoption of the Pratt and Whitney Canada PT-6 for the largest of Beech's "light" twins used by the Army, the *Queen Air*. Its success, particularly in the commercial market, led to a redesign incorporating a pressurized fuselage for higher altitude and more efficient cruise flight. Resulting *King Air 90* and *100* models found military uses as well as civil sales, becoming U-21 series Army models and subsequently Navy T-44As for multiengine advanced training.

Again, success was followed by a

demand for more—for increased payload/range capability and cruise altitude, with good short field performance. Studying various concepts that were in keeping with the evolutionary approach, beginning in 1969, Beech engineers came up with a design which extended the straight wing center section, moving the engines outboard. This increased the wing aspect ratio for the desired aerodynamic efficiency improvement, as well as increasing propeller tip-to-fuselage distance for reduced cabin noise. However, the limited aft center of gravity range required major tail surface redesign—with further weight and center of gravity impacts. The solution, confirmed by wind tunnel tests, was to adopt a T tail with a swept-back vertical fin.

Concern over the stall characteristics of some jet aircraft having T tails led to additional wind tunnel tests and analysis to achieve a final configuration. An engineering flight simulator, utilizing the tunnel and analysis data, was used to further tailor the new configuration and control system design and establish solutions for any potential deficiencies that might surface in flight testing. The first of three prototypes used for development and Federal Aviation Administration (FAA) certification flight testing flew in October 1972, with certification awarded in December 1973. One of the more significant changes using the preflight development results was the incorporation of extended ailerons to overcome marginal lateral control in some flight conditions. Beech noted that the newly certified *Super*

UC-12M



RC-12M



King Air 200 was the product of the most thorough development program in its history.

The first three production airplanes were purchased by the Army, modified for a special sensor/avionics evaluation program and designated the U-21 series. Subsequent production met continually expanding commercial demand. In 1974 the Army and Air Force combined their requirements for a utility transport aircraft. A joint competition, based on accepting an FAA certified design, resulted in selection of the Beech *Super King Air* as the C-12A joint Army/Air Force utility transport. As these were being delivered, the Navy joined in, procuring a total of 66 through the joint program to functionally replace a much larger number of piston-engine administrative transports used in logistic support by both the Navy and Marine Corps. To ensure optimum utilization of the new utility transports and meet logistics mission needs, they were scheduled from a center in New Orleans, La. Based on successful use of full contractor maintenance and support for Naval Air Training Command aircraft, the UC-12Bs would be under full contract support with Beech as the contractor. To

increase their logistics effectiveness, they were equipped with cargo doors aft of the wing, on the port side, and the Navy selected the 850-hp PT6A-41 available on commercial models.

As UC-12Bs were delivered to regular and reserve Navy and Marine Corps operating bases, their long-range delivery flights—done without fitting extra fuel tanks—received considerable notice. Settling down to their regular logistics and administrative assignments, they were joined by 12 more updated 200B models as UC-12Fs with uprated -42 engines and avionics improvements. The last two of these were modified as RC-12Fs with 360-degree surface search radar and other avionics to serve as range search and warning aircraft supporting Hawaii ranges. Similarly, two of 12 further updated models having the latest cockpit and avionics systems, UC-12Ms, delivered beginning in 1988, were modified as RC-12Ms for range operations.

With contract maintenance and support regularly providing some 10 percent more availability than the 80 percent guaranteed, the C-12s do their part in supporting the fleet's mission needs efficiently, effectively and economically.

UC-12B



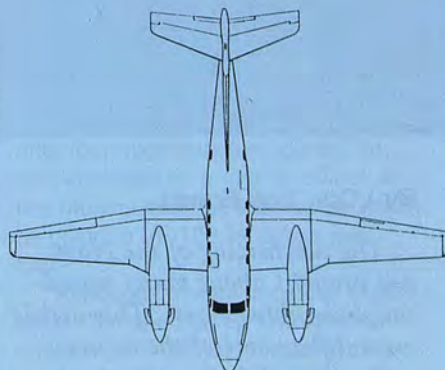
UC-12B



UC-12B



Span	54'10"
Length	43'9"
Height	15'
Engines (2):	
P&W Canada PT6A-41	850 shp
Maximum Speed	289 knots
Service Ceiling	35,000'
Maximum Range	1,890 nm
Crew	2
Passengers	8



The Last of the Jolly

VF-84's Approach to Shutting Down



Lt. Jim Skarbek, VF-84

By LCdr. Bob Frantz

The downsizing of the Navy has brought about many squadron disestablishments. This article exemplifies some of the aspects and personal feelings involved when a squadron shuts down.

The disestablishment rumors started flying early in 1994, a few months after our return aboard [*Theodore Roosevelt* (CVN 71)]. They were pervasive from the mess decks to the 'O' Club. But they didn't make sense. We had come off a very demanding but very successful deployment. As the only F-14 squadron aboard and the battle group's only tactical aerial reconnaissance asset, we were in great demand," explained Commander Brad Goetsch, who shepherded the squadron toward its destiny from January 1994 to May 1995 when he was relieved as commanding officer by Commander Dan Cloyd.

Goetsch continued, "We flew in support of Operations Provide

Promise and Deny Flight over Bosnia-Herzegovina and Southern Watch over Iraq. Tasking was so heavy that we set a record with 216 missions and more than 60 miles of film in support of the theater commander's intelligence requirements. *Roosevelt* was frequently extended at sea to provide continuous tactical intelligence for the theater commander. We got nothing but accolades from above."

It was mid-spring when the fighter wing commander told Cdr. Goetsch that the rumors were real. Fighter Squadron (VF) 84, NAS Oceana, Va., would be disestablished on 1 October 1995.

"I imagine it's like being fired or forced to retire. The feeling is very personal. My initial response was to push for an early disestablishment. Let's save millions of dollars and get it over with as quickly as we can. I was concerned about morale during the 18 or so months we faced before closing the door. However, in hindsight, having time for the system to absorb our people while trying to get

A Jolly Roger F-14 Tomcat leads a VMFA-134 F/A-18 Hornet and USAF Weapons School F-16 Falcon into the break at Nellis AFB, NV.

as many guys as possible the orders they wanted has been an advantage."

During the interim, the easy approach would have been to fly the fun hops and go home at three. But that would not be consistent with the Brad Goetsch style. A former Atlantic Fleet Pilot of the Year and Naval Aide to the Vice President of the United States prior to reporting to VF-84, Goetsch was determined to make the most of the hand he was dealt. He explained, "We were in the process of implementing TQL [Total Quality Leadership], and I thought we could apply TQL principles to make the disestablishment as efficient and effective as possible.

"It was obvious we would no longer be on the tip of the spear, but with no air wing or ship commitments, we would no longer have to contend with the primary disadvantage in this business—long-term family separation. We would have the freedom to pursue the kind of flying fighter crews live for—tactical training without deployment interference—and we could get our troops as much career-enhancing schooling as possible."

The squadron scheduled a four-day TQL retreat to plan its approach to the disestablishment. The Executive Steering Committee, consisting of CO, XO, department heads, Command Master Chief and Maintenance Master Chief, augmented by other selected officers and sailors, met and decided that the *Jolly Rogers* still had something to offer. Their focus was on VF-84's TARPS (Tactical Air Reconnaissance System) capability. They argued, "We have what is badly needed—combat-ready TARPS with Iraq and Bosnia-experienced aircrews." They wanted the chance to make their case to the top brass.

Rogers

"The cohesiveness and spirit demonstrated by what could have been an unmotivated group was inspiring," Goetsch continued. "Instead of giving up and feeling sorry for themselves, these guys were saying, 'Hey, it's us against the world, and we can show them that we are too good to be given up on.' Though I knew our efforts would probably be futile, the benefits of fighting as a team until the very end made the final outcome seem unimportant. We developed a tactical reconnaissance proposal identifying our capability and making it known we were ready and would go on short notice anywhere needed, ashore or afloat. We also committed to pursue the most aggressive training schedule possible. We were a funded fighter squadron and we were determined to be the best."

The original plan was for VF-84 to move from Carrier Air Wing (CVW) 8 to CVW-7 in January 1995. VF-143 was scheduled to undergo a major F-14B aircraft upgrade. The changes made in their aircraft were to be so extensive and done at such a rate, in terms of number of aircraft that would be unavailable to the squadron at one time, that it would force VF-143 to the sidelines as a deployable squadron for about two years. VF-84 was to spend 1995 working up with CVW-7 and deploy with it aboard *George Washington* (CVN 73) in early 1996.

"In anticipation of the air wing switch, we chopped to Fighter Wing, U.S. Atlantic Fleet, in April 1994," Cdr. Goetsch explained. "During that time frame the VF-143 upgrade was reprogrammed so that their workups and scheduled deployment would not be impacted. Obviously, there was no longer a need for us to move to CVW-7. Since we weren't part of a deployable air wing, we became a target during the downsizing."

Lieutenant Commander Steve Mooradian, VF-84's Administration Department Head, was worried when he first heard the rumors about the squadron going away. "I had just bought a house and we heard all kinds of things, like we would be sent to fill billets in Japan," he said. "It was

depressing to think the Navy was going to disband the *Jolly Rogers* with all that its symbol and reputation had come to mean. The uncertainty was the worst part. I thought we'd be picked apart. They'd take our people and aircraft and we'd soon be unable to function as a squadron. I thought we'd be a squadron in name only—a skeleton—and I feared safety and morale would be a major issue." But he was happy to add, "That didn't happen because of Skipper Goetsch and XO Cloyd. They are class guys who care about people. We also had a strong fighter wing commander who went to bat for us."

Although Mooradian, along with pilot Lieutenant Scott Leach, augmented VF-41 during one of its sea periods, he feels that being in a disbanding squadron has been a "double-edged sword." He explained, "I've lost some experience in terms of going to the boat, but tactically I'm ahead of where I would have been. We don't have to spend time or fuel money for [field carrier landing practice] preparing for the boat. Also, training from land allows more time in each hop for tactics."

"Since October 1994, we have taken advantage of Air Force funding contributions by making three deployments to the Air Force Weapons and Tactics Center at Nellis AFB, Nev., where we had the opportunity to fight against the best in the Air Force," Mooradian continued. "In the same seven-month period, we deployed to a Marine Corps expeditionary airfield at 29 Palms, Calif., to participate in a major live-fire CAX [combined arms exercise]. We lived in tents, ate field rations and flew from aluminum matted runways, dropping 187 live bombs in a two-week period—hardly typical for an F-14 squadron. In each case, prior to deploying, we fought against anybody and everybody on the East Coast who wanted to play."

"Most importantly, I won't lose the carrier experience," he added. Before joining VF-84, Mooradian was a former radar intercept officer (RIO) turned pilot, so his sea duty had been limited. "Although I don't relish being the guy nobody knows when you start over, I'm very happy to be going to VF-103 and flying the F-14B for a full three-year tour."

Cdr. Goetsch was concerned that VF-84's junior officer aircrew would

suffer the greatest negative career impact because they would have less shipboard experience than their peers. However, he, Cdr. Cloyd, the fighter wing commander and Bureau of Naval Personnel (BUPERS) detailers worked aggressively to obtain orders that would help them overcome this disadvantage.

VF-84's most junior pilot, Lt. Paul Ratkovich, joined the *Jolly Rogers* in mid-cruise aboard *Roosevelt* in June 1993. When he learned of the planned disestablishment, Ratkovich said, "I thought my career was about to end. I'm an Aviation Officer Candidate with a reserve commission. In an environment where so many reserve officers were being involuntarily released from active duty, this effectively moved up my planned rotation date by a year. I was also disappointed about the patch going away. I knew about the *Jolly Rogers* from the movies and building models as a kid. It's a great public relations and recruiting tool. Somebody should always 'fly the bones!'"

Ratkovich had applied for regular officer augmentation every six months for two years. In November 1994, after four augmentation boards, he was accepted as a regular officer. A few months later, he learned he would be going to VF-103 for a two-year tour.

"Although I'm light in carrier experience, I'll make that up with another cruise in VF-103, and I know I'm far ahead of where I'd normally be tactically thanks to the *Jolly Rogers*."

Ratkovich remembered, "One day



VF-84 was established on 1 July 1955 at NAS Oceana, Va., with the nickname Vagabonds. In June 1959, when the squadron transitioned from the FJ-3 Fury to the F8U-2 Crusader, it adopted a new name and insignia—the *Jolly Rogers* skull and crossbones.

at Nellis I was fighting a guy in an F-15C with 2,000 hours in type and here I was with 300 hours in my jet and I was beating him. This shouldn't have happened. It wasn't me, it was our squadron training and leadership. Not only are Skipper Goetsch and XO Cloyd as good as it gets in the cockpit, they have created an atmosphere that encourages the development of aggressive fighter crews. We've learned if you fight well, you can defeat someone in a superior aircraft. In VF-84 we are encouraged to be innovative tactically."

Ratkovich's back seater, RIO Lt. Kevin Sidenstricker, joined VF-84 during its last cruise in July 1993. A former Aviation Electronics Technician



The Jolly Roger softball team snatched this Las Vegas city tournament trophy during the May 1995 USAF Weapons School Det weekend break.

Airman Kimberly Ruebling, USAF



Lt. Jim Skarbek, VF-84

Second Class in VF-1, Sidenstricker said, "When I heard the news, I thought we were going to be put on the shelf. Forget things like Top Gun [Navy Fighter Weapons School] and Forward Air Controller (Airborne) quotas. Losing things like that limits our junior officers' competitiveness. But that didn't happen due to accommodations made for us by the fighter wing."

Sidenstricker, who will report to VF-41 for a two-year tour and was recently selected for augmentation, reflected, "Looking back, this has been interesting. Since March 1994 we've had no aircrew check-ins. That means no new factors in unit cohesiveness and crew coordination. You constantly hear from others at Oceana that they've never seen a tighter ready room in terms of personal relationships. Knowing we are the last of the *Jolly Rogers* has kept us tight.



Pilot Lt. Jeff Kennedy (left) and Radar Intercept Officer Lt. Kevin Sidenstricker head to the Nellis man-up.

Airman Kimberly Ruebling, USAF

"It's also contributed to our tactical proficiency. There's been no need to constantly manipulate our tactical organization. Consistency in flight leads and flying with the same people

A VF-84 Tomcat and a 57th Fighter Wing Falcon in a Nellis AFB hold short.

adds to crew coordination and combat effectiveness," he said.

"Of course, no new guys also means there are less guys left to share the existing workload. As a junior officer, I am holding two fairly responsible and unrelated billets—Legal Officer and Operations Schedule Writer. The only thing I wish were different is that we would have had an opportunity to go to the boat, especially for the pilots. After all, an F-14 squadron is a naval asset."

Not surprisingly, VF-84 led all Fighter Wing, U.S. Atlantic Fleet, units in joint operations participation during Cdr. Goetsch's tenure as CO. And, amazingly, considering that the F-14A is now in its third decade of service life, the *Jolly Rogers* achieved a 99.6-percent sortie rate by completing 666

of 668 scheduled joint air combat training sorties.

Lt. Cole Kupec, VF-84's Assistant Maintenance Officer, is quick to tell you, "It hasn't always been that way." Describing himself as the most tenured khaki *Jolly Roger* (he reported in December 1991), Kupec argued, "We weren't getting our share of the maintenance talent. My chiefs and I hired most of the guys that are here now by putting together a *Jolly Roger* pitch. We identified the guys we wanted by reputation and with help from the fighter wing and BUPERS. We didn't insult anybody's intelligence with rah, rah stuff but put together a package showing them a plan that would get them promoted."

Kupec spent nine years as an enlisted man before leaving active duty, earning a degree and finally a commission through Officer Candidate School, Newport, R.I.

"It's been a great deal for the troops unless you're an E-6 looking for chief," Kupec explained. "It's sea duty with far less family separation. But if you're an E-6 or a chief, the name of the game to get ahead is called sustained superior performance at sea and that's hard to do without deploying aboard ship."

"Interestingly, the numerous dets, especially those that don't take the full complement of enlisted men, have been career enhancing for many of the guys. A second class who is someone's assistant at Oceana will frequently be the top dog on the det. The guys also benefited from training. We sent tons of them to school—far more than the typical fleet squadron could because we were free of deployment conflicts."

"Joint operations, especially with the Air Force, have provided us with more bang for the buck," explained *Jolly Rogers'* Operations Officer LCdr. Gordon Carter. "We bring our aircraft, fuel and ordnance. They pay per diem expenses, hotels and local transportation. They also pay for the sophisticated ranges we use during those deployments."

He said, "We have more requests than we can handle. They like us because they know they'll get a good fight. They know we have a reputation for being very innovative and they're likely to see tactics they've not seen before. We also have a reputation for not 'gaming it.' In other words, we

don't cheat. We're professional in presentation; we'll fit the scenario they want. By the same token, when we have a specific training interest, they'll meet our requirements."

The squadron disestablishment will have an unusual effect on the career of its last commanding officer. Cdr. Cloyd became a *Jolly Roger* in January 1994, serving as executive officer for 16 months prior to assuming command in May 1995. He will have held command for only four and one-half months prior to disestablishment. He will then report to VF-143 for a full tour as XO/CO.

"XO is a great job," stated the F-14 RIO and U.S. Naval Test Pilot School graduate. "I love the flying, but I also want to make a difference in the lives of the terrific people we have, and being XO of VF-84 has given me an additional opportunity to do so. I look at my time in the *Jolly Rogers* as a 20-month bonus."

Cdr. Cloyd, who participated in the first Navy air strike of Desert Storm, stressed, "We need to continue to hone the edge. We pushed real hard to go through [the Strike Fighter Air Combat Readiness Program] in June and July. It's important to maintain the war-fighting focus until the day we turn out the lights. . . . VF-84 may cease to exist, but the *Jolly Roger* spirit and capability will live on in other squadrons."

Cdr. Brad Goetsch, a quiet, modest gentleman whose personality and leadership style, according to many he commanded, contradicts his aggressiveness in the cockpit, is philosophical about not having had the opportunity to take his squadron to the boat. "It's timing. I wasn't the first guy it happened to and am not likely to be the last," he acknowledged. "I am very proud of this squadron and honored to have been its CO. We took on an aggressive operations plan and did very well. In the past 18 months, we flew more joint operation hours and sorties than all other F-14 squadrons combined. We delivered more live ordnance than any other squadron in the Navy. We were the first *Tomcat* squadron to operate out of an expeditionary airfield and participate in a major live-fire CAX. During Green Flag 95-3, we outperformed Air Force F-15s, F-16s, F-111s and Navy/Marine Corps F/A-18s in both the fighter and strike roles.

"We sent two crews to Top Gun and two crews to the Marine Aviation Weapons and Tactics Squadron. We sent one junior RIO, who needed deployment experience, on cruise with VF-111 and we sent one junior pilot for three months to work on the staff of Joint Task Force Southwest Asia, which oversees our operations over Iraq. And our commitment to schooling paid off as our advancement rate was double that of any other Atlantic Fleet F-14 squadron," Goetsch noted.

Captain Dale Snodgrass assumed command of Fighter Wing, U.S. Atlantic Fleet, in September 1994 and calls Cdrs. Goetsch and Cloyd "two of the best in the community." Known at Oceana for going ready room to ready room, challenging each squadron CO to send his best to meet him on the range, Capt. Snodgrass said, "Goetsch and Cloyd are a driver and RIO at the peak of their games. They are untouched tactically in the F-14. They also did a great job driving pride and professionalism downstairs. When a squadron is told it's going away, it's usually at its low point. The motivation of [VF-84's] maintenance troops speaks for itself. Even the paint on their aircraft reflects the pride these guys have in their squadron."

Cdr. Goetsch, now on the staff of Commander Cruiser-Destroyer Group 8 and recently selected to command VF-101, the F-14 fleet readiness squadron, described the *Jolly Roger* "skull and crossbones" as "the most well-known combat aviation symbol in the world. In flight training, people want to go to the squadron with the skull and bones."

For over 40 years, VF-84's heritage, tradition and pride have promoted a spirit of survival: "Who wants to fight? Bring 'em on!" This attitude has served its members well during the disestablishment process, and has secured for the squadron a lofty place in the history of Naval Aviation. ■

LCdr. Frantz, a reservist, has drilled with VF-84 since November 1989. Last year, recruited by former *Jolly Roger* CO Capt. E. M. Chanik, he spent 14 weeks aboard *Carl Vinson* (CVN 70) during her WestPac/Indian Ocean deployment as the Project Liaison Officer for the Discovery Channel's "Carrier: Fortress at Sea" and ABC's "Wings as Eagles."

In the spring of 1945 U.S. military planners in Washington, on Guam, and in Manila were putting the finishing touches on the plan for what would have been the largest, and probably most costly, amphibious assaults in history—the invasion of Japan. U.S. military planning called for an assault on the southernmost home island of Kyushu on 1 November 1945, to be followed, if Japan had not surrendered, by an assault on the main island of Honshu about 1 April 1946. These assaults—dubbed Operations Olympic and Coronet, respectively—would each be larger than the D-day landings at Normandy in June 1944.

The first invasion target, Kyushu, was about twice the size of Massachusetts, with a population of some 10 million. Operation Olympic called for three corps landings on the southern portion of the island. From the landing sites, American forces would

The planned assaults on the Japanese home islands of Kyushu in November 1945 and Honshu in March 1945 were the largest amphibious operations ever undertaken. These tanks are passing a U.S. battleship providing shore bombardment during the Okinawa invasion of 1 April 1945.

NH 89358

The Largest Invasion . . . That Never Was

By Norman Polmar

fight their way inland and link up to gain control of the southern half of the island—a line running through the towns of Tsuno on the eastern coast and Saito on the western coast. The southern half of Kyushu would then be used as a base for intensive air attacks and to support the subsequent invasion of Honshu and the march on Tokyo.

In July 1945 feigned and real preliminaries for Olympic began. Some U.S. soldiers and airmen worked on the props and scenarios for the complex deception plan, called Pastel ii. And Admiral William F. Halsey's Third

Fleet—comprising 17 aircraft carriers, 8 fast battleships, 20 cruisers and 75 destroyers—started pounding the Japanese coast and battering Japanese air and naval forces. On 10 July Halsey's carrier planes struck Tokyo, encountering virtually no fighter opposition or antiaircraft fire. Vice Admiral John Shafroth led three of the battleships and two heavy cruisers with their destroyer escorts to within 29,000 yards of the coast of northern

Honshu; the Japanese could see them offshore.

The Third Fleet was to continue this first phase of Olympic preparation from 28 July (X-day minus 95) to 23 October (X-8). General of the Army Douglas MacArthur, commander of the ground forces involved in the campaign, would use X and Y to designate the assault days, because D-day had been too closely linked with the European war, which he disdained.

Scenes like this—Marine casualties at Iwo Jima—were major factors in President Truman's decision to use the atomic bombs against Japanese cities.

USMC

For the men of MacArthur's Sixth Army, the invasion became inevitable on 1 July when the Eighth Army took over the fighting on Luzon in the Philippines so that the Sixth Army could regroup, reequip and train for

Thousands of Japanese kamikazes flew in defense of their home islands. Their targets were offshore U.S. transports and landing ships, and possibly the carriers providing close air support for the landings, such as St. Lo (CVE 63), shown here struck by a suicider off the Philippines on 25 October 1944.

80-G-270516



Naval Aviation in WW II

Olympic. Organized fighting had ceased on Luzon, although major Japanese forces still held out in the mountains. As the Sixth Army's 11 Army divisions and support forces got ready on Luzon for its final campaign, its three Marine divisions rehearsed landings at their bases in Hawaii and the Marianas.

The U.S. invasion armada, which would be the largest ever to put to sea, began to assemble at ports throughout the Pacific. All together the plan called for a total of 1,371 transport, cargo and landing ships with a capacity to carry 539,300 personnel and 61,200 tanks and other vehicles.

Several tank landing ships (LSTs) were fitted out as miniature aircraft carriers to launch and recover Piper Cubs, popularly known as *Grasshoppers*, to spot fire for artillery after the guns went ashore. These ships would use a wire-trapeze system named for its inventor, Army officer 1st Lt. James H. Brodie.

Another 21 LSTs would carry thousands of units of blood and mobile blood distribution units. They, along with four evacuation transports, would carry wounded out of the beachhead area, either to major hospitals on Okinawa and Luzon, or transfer them at sea to white-painted hospital ships that would remain far offshore. Ordinarily, medical personnel did not carry arms. But a training document for the invasion noted that those going ashore would be trained and armed because the Japanese would not recognize any invader as a non-combatant.

The total carrying capacity of the assault fleet indicated, but did not define, the actual size of the ground forces that would be sent into Kyushu. The original planning by MacArthur's headquarters called for the Sixth Army to land 337,000 soldiers and 87,000 marines in the assault and its immediate follow-on operations. Those numbers, however, would periodically change as the planning progressed—as Army and Marine Corps unit organizations were changed and as additional troops were assigned to the Corps and Army commands that would participate in the landings.

General MacArthur, in a message to Washington in mid-June 1945, used 681,000 as the "total force involved," with "one-half engaged the first 15 days and the entire strength thereafter." But his authorized postwar description of invasion plans, while discussing manpower in the broad Army terms of corps and divisions, did not produce an overall number. The Sixth Army, the command making the assault, listed the landing force as 337,000 soldiers and 87,000 marines and sailors in the assault and the immediate follow-on operations. MacArthur's chief of engineers used 549,503 as the total "force to be landed"—including engineers to build airfields and port facilities, Army Air Forces personnel to fly and maintain many hundreds of aircraft, and men to garrison the southern half of Kyushu to operate military prison camps and to provide services and military government for the captured Japanese civilian population. But this

figure did not include the three divisions of Marines, since they would provide for their own engineering needs.

Another planning document, which listed Sixth Army invasion units down to scout dog platoons, gave the total, including the three Marine divisions (59,898 men), as 382,937. To this was then added 49,382 medical, base construction, quartermaster and other service troops; 18,970 men assigned to military government tasks; and 35,857 men from the Far East Air Forces. When all of these numbers were added up, the total was 487,146, still far from the figures that MacArthur gave to Washington or the ones used by his chief of engineers—but still an impressive force. (MacArthur's 681,000 figure could have been obtained by adding the men of Navy and Army Air Forces supporting the invasion.)

While this massive force was being assembled, plans were drawn up for Admiral Halsey's Third Fleet to focus on aircraft, airfields and shipping between Honshu, Shikoku and Kyushu between 18 and 24 October. On the 24th two of his carrier groups would join the Fifth Fleet, under the command of Admiral Raymond A. Spruance; this was the first time since early 1942 that the two admirals and their fleets would be at sea fighting simultaneously.

The Fifth Fleet would include the British carrier force and, as assigned, antisubmarine and logistics groups. The Fifth Fleet would have the amphibious ships, covering and support forces, minesweepers, support



80-G-271323

During the Iwo Jima campaign, LST 776 launched and recovered Piper Cubs, called "Grasshoppers," using a wire-trapeze system named for its inventor, 1st Lt. James H. Brodie. The aircraft were used to spot fire for artillery after the guns went ashore.



80-G-271322

ships and a wing of flying boats and their tenders.

Also present off Kyushu would be the Seventh Fleet, under Admiral Thomas C. Kinkaid, which would be assigned ships and missions as appropriate by Admiral Chester W. Nimitz, the overall naval commander in the Pacific, and other commanders.

Beginning on 24 October (X-8), battleships, cruisers and destroyers would begin bombarding the landing beaches trying to knock out the elaborate Japanese coastal defenses. (Among the 11 old battleships moving in to pound the landing sites with 16-inch and 14-inch guns would be 7 resurrected veterans of the Japanese attack on Pearl Harbor.) The effectiveness of shore bombardment had long been debated. Some, but rarely all, coastal defense positions were destroyed in the various naval bombardments in the Pacific amphibious assaults. Still, some were destroyed, and bombardments immediately prior to the landings invariably forced the defenders to cower in their bunkers, generally preventing them from firing on the landing craft.

The Olympic plan called for MacArthur's Far Eastern Air Forces, under General George C. Kenney, to cut off northern Kyushu from the invasion area to the south. Kenney's fighters and bombers were to take out the railroads and the paralleling *Kokudo*, or national highway, a two-lane gravel road that ran along the coasts and linked the island's cities. The railroad seemed to be particularly vulnerable for its tracks ran across numerous bridges and through tunnels. The highway and railroad network had so far remained solid enough for thousands of defenders to pass to the south.

On 27 October (X-5), elements of the Army's 40th Infantry Division and the 158th Regimental Combat Team were to begin landing on small islands lying off the west coast of Kyushu. These units probably would have met little opposition because the Japanese planned to throw nearly all they had into a fierce shore defense of Kyushu itself. The islands would be used for small craft to support the landing and as advance bases for PBM *Mariner* flying boats, which would perform reconnaissance and

search-and-rescue missions.

Subsequently, on X-day, the assault elements of nine divisions would storm ashore on three Kyushu beaches. No one expected that landings on any of these beaches would be unopposed, as had happened on some other island assaults. Indeed, U.S. intelligence revealed that the Japanese referred to their defense of Kyushu as the "Decisive Battle." The Japanese military leaders hoped to inflict enough casualties on the assaulting armies to force the United States to enter into negotiations to end the war.

The Japanese intended to start their defense at sea, sending kamikaze aircraft and Bakas (piloted, rocket-propelled bombs launched from bombers) out to the invasion fleet as it approached the beaches. Submarines carrying Kaitens (torpedoes carrying a pilot who used a periscope to navigate toward the target) would try to fire their "human torpedoes" as the fleet massed between Okinawa and Kyushu. Hundreds of Kaitens would go to sea. Japan's conventional submarines (they still had 60) would take suicidal chances to score a kill, as would the midget submarines, which were not suicide weapons but probably would have been used that way in the Decisive Battle. Other midget submarines were to be stored in well-camouflaged shoreside caves and tunnels, from which they were to be launched on rails for one-way raids on the invasion fleet.

Closer in, and probably during the landings, suicide boats would strike. Roaring out of hiding places as landing craft neared shore, the explosives-laden boats would aim at any craft carrying troops. The navy's *Shinyo* carried 550 pounds of explosives in its bow; the army's *Renraku-tei* carried two 240-pound depth charges set to explode six seconds after release.

Finally, there would be the usual underwater obstacles designed to rip open or hang up landing craft, as well as rows of *Fukuryu*, swimmers in diving gear operating 30 feet or so beneath the water. The outermost row of the suicide frogmen would hover near rows of mines anchored to the bottom. As the craft neared the

mines, the *Fukuryu* divers would release them. Many of the divers would die in the subsequent explosions, and the survivors would carry mines to landing craft that passed nearby. Some would have explosives attached to poles they would jam against the sides of landing craft.

The suicide planes would probably be held back until the invasion fleet was 20 or 30 miles from shore. The aerial suicide attacks would intensify around X-day when the fleet was taking up stations for the invasion. Plans were to have 10,500 kamikaze aircraft ready for massive attacks by early fall. (At the end of June 8,000 had been prepared for battle.) Japanese strategists, basing their optimism on magnified reports of kamikaze and Baka successes in the Philippines and Okinawa, estimated that "special attackers" would take out 30 to 50 percent of the invasion fleet. Captain Rikihei Inoguchi, an air staff officer, was more guarded. He estimated that in the Philippines only one of every six kamikaze planes hit a target; at Okinawa, the rate was one in nine. Off Kyushu, against intense U.S. fighter opposition, he expected a success rate of about 10 percent.

Once ashore, American troops would be confronted by a Japanese army on Kyushu numbering almost 600,000 men. Many of the combat units, however, were newly formed and the troops poorly trained and short of weapons and equipment. Short rations would also sap their fighting strength. But the tenacious Japanese defenses of Iwo Jima and Okinawa, which included paramilitary units, indicated that these men—some elderly and some just boys—would fight. Behind them, the civilian population would do its part—men and women who were armed and trained to throw themselves against the enemy with satchel charges, bamboo spears and even kitchen knives.

The estimates of U.S. casualties in the Kyushu landings varied greatly. For an 18 June 1945 meeting of President Truman and the Joint Chiefs of Staff, General MacArthur, who would command the landings in Japan, sent his casualty estimates: a total of 95,000 casualties—dead and wounded—for the expected 90-day campaign to seize the southern half

of Kyushu. Not included in MacArthur's casualty number were another 12,000 nonbattle casualties, men who would fall out of the ranks because of disease and accidents.

The Army Chief of Staff, General of the Army George C. Marshall, feared that so high a casualty rate would make Truman put off the invasion. MacArthur lowered his estimates.

The Joint Chief's planning staff also prepared casualty estimates—one put the casualties as high as 132,000 men killed and wounded for the conquest of Kyushu. Almost 100,000 more Americans would be killed and wounded if the landings in Honshu followed. But these were, at best, educated guesses.

Many numbers were discussed at the 18 June meeting in the White House—leaving the impression that American casualties might reach as high as a quarter of a million.

President Truman continued the discussion of casualties in the Berlin suburb of Potsdam in July 1945, where the president met face-to-face, for the first time, with Soviet dictator Josef Stalin and British leader Winston Churchill. After learning details of the success of the atomic bomb test at Alamogordo, N.M., Truman met with his principal advisers on 22 July. It was apparently at this meeting that Truman wrote, "I asked General Marshall what it would cost in lives to land on the Tokyo plain and other places in Japan. It was his opinion that such an invasion would cost at a minimum one quarter of a million casualties and might cost as much as a million, on the American side alone, with an equal number of the enemy." The casualty numbers discussed at Potsdam added to Truman's growing conviction about the need to use the bomb.

A half million was a number used at the time by many U.S. wartime planners. On Luzon, the Sixth Army's medical staff—isolated from the politics of both Washington and Manila—estimated that casualties from the Kyushu assault and subsequent fighting to secure the southern half of the island would cost 394,000 Americans dead, wounded and missing. At Okinawa, in a battle that proffered many similarities to the fighting on

Kyushu, the U.S. Tenth Army suffered 7,613 soldiers and marines killed and missing, and 31,807 wounded. Using that same 1:4 ratio for the Kyushu battles, the Sixth Army could expect some 98,500 dead and 295,500 wounded.

Thus, there is no simple answer to the question "How many would have died?" if the war continued with American landings on Kyushu, possibly followed by an assault on the main island of Honshu.

Only briefly mentioned, but not discussed, at these meetings were potential casualties at sea. At Okinawa the Navy suffered 4,907 dead and 4,824 injured on board ships, most struck by kamikazes. Off Okinawa the primary targets of the Japanese attackers were destroyers, which served as radar pickets. The Japanese hoped to sink the destroyers to permit attacks on the transports offshore.

At Kyushu the Japanese targets of air, sea, and underwater suiciders would be the transports, cargo ships, LSTs and landing ships. Unlike the destroyers at Okinawa that were maneuvering and firing at attackers with their heavy gun batteries, the target ships off Kyushu, some packed with troops, would be moving slowly, if at all, as they disgorged troops and equipment. And, the kamikazes would have to fly only a few miles offshore, not the 350 miles to Okinawa.

Some estimates placed the losses off Kyushu aboard ship—both sailors and embarked troops—at 10 times the losses at Okinawa. In Olympic the suiciders might kill as many as 50,000 crewmen and troops and wound an equal number in ships and landing craft.

Also not mentioned in most discussions of casualties are the estimated 100,000 Allied prisoners of war in Japan. There is abundant evidence that the prisoners of war would have been killed when American troops landed in Japan.

But there was no invasion. At Potsdam in July, President Truman approved the use of atomic bombs against Japan. On 6 August the B-29 *Enola Gay* dropped an atomic bomb on Hiroshima, and three days later the B-29 *Bockscar* dropped an atomic bomb on Nagasaki. At noon on the

15th the voice of the Emperor of Japan was heard for the first time on the radio. In a recorded broadcast to his people, Emperor Hirohito declared, "To our good and loyal subjects: After pondering deeply the general trends of the world and the actual conditions obtaining in Our Empire today, we have decided to effect a settlement of the present situation..."

Then, referring to the immediate cause of his declaration, the Emperor continued that the "war situation has developed not necessarily to Japan's advantage, while the general trends of the world have turned against her interest. Moreover, the enemy has begun to employ a new and most cruel bomb, the power of which to do damage is indeed incalculable, taking the toll of many innocent lives. . . ."

The largest amphibious assaults ever to be planned—Olympic and Coronet—would not be undertaken. Rather than support the invasion, Navy shore- and carrier-based aircraft began crossing the skies over Japan, seeking out prisoner of war camps and dropping bundles of food rather than bombs. ■

Norman Polmar, a well-known naval analyst and author, is coauthor with Thomas B. Allen of the recently published book *Codename Downfall: The Secret Plan to Invade Japan and Why President Truman Dropped the Bomb* (Simon & Schuster). See the book review on page 39.

50 Years Ago – WW II

10 Sep: *Midway* (CVB-41), first of the 45,000-ton class of aircraft carriers, was placed in commission at Newport News, Va., with Capt. Joseph F. Bolger in command.

17 Oct: A type designation letter K for pilotless aircraft was added to the basic designation system, replacing the previous class designation VK. Classes A, G and S within the type were assigned for pilotless aircraft intended for attack against aircraft, ground targets and ships, respectively.

U.S. Forces Scheduled to Assault Kyushu, 1 November 1945

Sixth Army

- 40th Infantry Division
- 158th Regimental Combat Team

I Corps

- 25th Infantry Division
- 33rd Infantry Division
- 41st Infantry Division

V Marine Amphibious Corps

- 2nd Marine Division
- 3rd Marine Division
- 5th Marine Division

IX Corps

- 81st Infantry Division
- 98th Infantry Division

XI Corps

- Americal Division (Infantry)
- 1st Cavalry Division
- 43rd Infantry Division

Follow-up Forces

- 11th Airborne Division
- 77th Infantry Division

Naval Forces

Only warships and amphibious ships are indicated below; several hundred minesweepers and auxiliary ships were also slated to participate in Olympic.

Third Fleet (Adm. William F. Halsey)

Fast Carrier Task Force

- 14 CV fast aircraft carriers (approx. 100 aircraft each)
- 6 CVL light aircraft carriers (approx. 35 aircraft each)
- 9 BB fast battleships (16-inch guns)
- 2 CB large cruisers (12-inch guns)
- 7 CA heavy cruisers (8-inch guns)
- 12 CL light cruisers (6-inch guns)
- 5 CLAA anti-aircraft cruisers (5-inch guns)
- 75 DD destroyers

Fifth Fleet (Adm. Raymond A. Spruance)

Amphibious Support Forces

- 12 CVE escort aircraft carriers (28-32 aircraft each)
- 11 OBB old battleships (14- and 16-inch guns)
- 10 CA heavy cruisers (8-inch guns)
- 15 CL light cruisers (6-inch guns)
- 36 DD destroyers
- 6 DE destroyer escorts

Attack Forces (to protect amphibious ships)

- 10 CVE escort aircraft carriers (28-32 aircraft each)
- 81 DD destroyers
- 122 DE destroyer escorts

Follow-up Forces (to protect follow-up amphibious ships)

- 16 DD destroyers
- 48 DE destroyer escorts

Hunter-Killer Groups (offensive antisubmarine forces)

- 4 CVE escort aircraft carriers (28-32 aircraft each)
- 24 DE destroyer escorts



AAF 58189
USN 354614 [inset]

Despite the current debate on the atomic bombing of Hiroshima (seen here) and Nagasaki and the end of the war, there can be no doubt that President Harry S. Truman and U.S. military leaders wanted to use the bomb to end the conflict in the Pacific with a minimum loss of American life. Inset: Although thousands of women and children were among the victims of the atomic devastation, Hiroshima was a military target. It was headquarters for the defense of southern Japan, a principal port for sending men and weapons to Kyushu, and it had a major naval air station and army depot.

Logistics Group (to protect oilers and ammunition ships)

- 10 CVE escort aircraft carriers (28-32 aircraft each)
- 1 CL light cruiser
- 12 DD destroyers
- 42 DE destroyer escorts

Amphibious Forces

- 95 AKA attack cargo ships (23,750 troops)
- 17 AP troop transports (34,000 troops)
- 210 APA attack transports (273,000 troops)
- 68 APD destroyer transports (10,290 troops)
- 4 APH evacuation transports (3,200 troops)
- 16 LSD dock landing ships (3,840 troops)
- 400 LSM medium landing ships (20,000 troops)
- 555 LST tank landing ships (166,500 troops)
- 6 LSV vehicle landing ships (4,800 troops)

(Total lift capacity: 539,300 troops)

Seventh Fleet (Adm. Thomas C. Kinkaid)

Forces as assigned.

British Pacific Fleet

Carrier Force

- 4 CV fleet carriers (50-80 aircraft each)
- 1 BB fast battleship
- 3 CL light cruisers
- 2 CLAA anti-aircraft cruisers
- 18 DD destroyers

Awards

People of the Year

COMNAVAIRPAC: Lt. Dan Cheever—**Pilot** and Lt. Andrew J. Hill—**LCdr. Michael G. Hoff Attack Aviator**.

NAS Patuxent River: ET1 David Johnson—**Vice Admiral William P. Lawrence Naval Air Traffic Control Technician**.

NAS Whidbey Island: AO1 Ronald P. Burnette—**Aviation Ordnanceman**.

Naval Aerospace and Operational Medical Institute: PR2(AW) Wess S. Woods and HM1(AW) Wayne M. Furrow—**Senior Sailors** and Dr. Carl Davis—**Civilian**.

NAWCAD: LCdr. Richard Muldoon—**Test Pilot**, Michael Griffith—**Test Engineer**, Lt. Nigel Sutton—**Test NFO** and Lt. Larry Egbert—**Test Instructor**.

Rotary Wing Test Squadron: Michael L. Randall—**Test Technician**.

NAWCWPS Point Mugu: AT1(AW/NAC) Michael C. Connolly—**Sailor**.

VAQ-130: AMS1(AW) Jay M. Shannon—**Sailor**.

VAW-122: AMH1(AW) Clifford J. Dietz—**Sailor**.

VP-10: Cdr. Frank Munoz—**ANA Maritime Patrol Aviator**.

Lt. Michael E. Wojcik, VT-3, earned the **CNATRA David S. Ingalls Award** as top flight instructor in the Naval Air Training Command.

VAW-126 captured the **1994 Airborne Early Warning Excellence Award**.

Bell Helicopter Textron, Inc., received the **1995 Department of Defense Value Engineering Achievement Award for Outstanding Navy Contractor** for its work on the AH-1W *Super Cobra* attack helicopter for the Marine Corps.

Roger Stensland, cognizant field activity engineer on the E-2/C-2 mechanical systems program at NADEP North Island, Calif., earned

the **Meritorious Civilian Service Award**. Stensland was honored for his resourcefulness in developing alternative repair procedures in maintaining COMNAVAIRPAC E-2 and C-2 readiness.

Eleven members of VP-10 earned **Air Medals** for their work in support of Operation Deny Flight over Bosnia-Herzegovina: Cdr. Thomas Arminio; Lts. Terry Taylor, Llewellyn Lewis and William Spearman; Ltjg. Patrick McCormick; ATCs Thomas Gruver and David Husman; AW1 Alfred Hogan; AW3 Aaron Hazel; AE3 Dewayne Colombe and AMH1 Richard Latour.

VT-19's Lts. Neyland Springer and Graham Cox were both awarded the **Strike/Flight Air Medal**. Springer earned his award while serving as an F-14B *Tomcat* pilot during operations over Iraq and Bosnia. Cox was recognized for his efforts as an S-3B *Viking* pilot in support of flight operations over Bosnia.

Carrier Air Wing 1 Flight Surgeon Lt. Ron McGaugh and Lt. Chris Teichmann received the **Navy Commendation Medal** for their rescue efforts while stationed at NAS Oceana, Va., when they waded through waist-high marsh waters and burning wreckage to assist the crew of a T-2 trainer after they were forced to eject.

VT-19 captured the **1994 NAS Meridian, Miss., Captain's Cup Trophy** for overall sports achievement. VT-19 won basketball, swimming and badminton championships.

GySgt. Wilson Almand, 1st Marine Aircraft Wing Aviation Support Element, earned the **Outstanding Achievement Award** for Aviation Chief Petty Officer from the Association of Naval Aviation. Almand is the first Marine to receive the award.

VP-16 captured the **1994 Patrol Wing 11 Golden Wrench Award** for overall aircraft maintenance excellence.

NAS Meridian, Miss., won the **1994 Commander Naval Air Training Award for Achievement in Safety Ashore**.

The Tidewater Chapter of the American Red Cross presented its highest lifesaving award, the **Certificate of Merit**, to AC1 Daniel Baxter, NAS Norfolk, Va. Baxter utilized CPR techniques to save the life of an electrocution victim at NAS Norfolk.

NATTC Millington, Tenn., received the **Meritorious Unit Commendation** for training 26,700 students in support of the fleet and 14 foreign countries. The training center also received a **Letter of Commendation** from the Chief of Naval Education and Training for its service to the surrounding communities.

During a recent change of command ceremony, the staff of Commander Naval Base, Jacksonville, Fla., received the **Meritorious Unit Commendation**.

Former Marine pilot Capt. Garnet E. Gahagan was awarded 3 **Distinguished Flying Crosses** and 10 **Air Medals** more than 50 years after flying his B-25 bomber in WW II's South Pacific theater. Gahagan flew more than 300 combat hours over the South Pacific with Marine Bombing Squadron 423.

The following were **1994 CNO Aviation Safety Award** winners:

COMNAVAIRLANT: VF-142, VFA-131, VA-35, HCS-4, VP-10, VS-31, VAW-121, HS-7, HSL-42, VX-1, and VC-8.

COMNAVAIRPAC: VF-111, VA-52, VAQs 132 and 139, VFAs 127 and 195, VS-37, VAW-114, VP-4, HS-8, HSL-45, HCs 3 and 11, VQ-3 and HM-15.

COMMARFORLANT: HMMs 266 and 365, VMAQ-4, VMFAs 251 and 533, HMT-204 and VMGR-252.

COMMARFORPAC: VMAs 211 and 214, VMFA-323, HMMs 265 and 268, HMH-463, HMLA-169, VMFAT-101 and SOMS MCAS El Toro.

CG Fourth MAW: VMFA-321 and HMLA-773.

COMNAVRESFOR: VF-201, VFC-13, VRs 53 and 61, VPs 65 and 92, HC-85 and HCS-4.

CNATRA: VTs 2, 7, 27, 31, and 86 and HT-18.

COMNAVAIRSYSCOM: NAWCAD Patuxent River, Md., NRL Flight Support Det.

VT-3 claimed the **1994 NAS Whiting Field, Fla., Captain's Cup Trophy** for intramural sports achievement, capturing championships in softball, tennis and soccer. It is the squadron's fifth consecutive Captain's Cup award.

HSL-45 won the **1994 Helicopter Antisubmarine Light Wing, Pacific Top Torpedo Award**. The award signifies the HSL squadron that excels above all others in antisubmarine warfare operations.

Dwight D. Eisenhower (CVN 69), *Nassau* (LHA 4) and NAS Whidbey Island, Wash., earned the **Capt. Edward F. Ney Memorial Award** for food service excellence.

The following were **1994 Golden Anchor Award** winners:

CINCPACFLT: *Kitty Hawk* (CV 63); VS-33; HS-14; Special Category: *Nimitz* (CVN 68).

CINCLANTFLT: *Theodore Roosevelt* (CVN 71); HM-14; VP-8; VX-1; Special Category: VC-6.

CNET: NAS Pensacola, Fla.; VT-7; TRAWING-5; NATTC, Millington, Tenn.; NTTC, Meridian, Miss.

CINCUSNAVEUR: VQ-2; HCS-4; TSC, Sigonella, Italy.

Records

Several units marked **safe flying time:**

Unit	Hours	Years
VMFA-232	60,000	
VMFT-401	30,000	
VFA-113	90,000	21
VFA-82	30,000	8
VAW-117	41,000	18
HSL-37	15,000	3*
HSL-46	50,000	
HSL-47	50,000	
HMH-466	30,000	10
NAS Pensacola	87,000	24
VR-60	37,000	12

*Since transitioning to the SH-60B

Special Records

LCdr. Robert L. Gross, OinC, HSL-49 Det. 6, achieved 3,000 career flight hours and 1,000 small deck landings.

Commander, Carrier Air Wing 5, **Capt. Brian M. Calhoun**, logged his 1,000th carrier arrested landing, aboard *Independence* (CV 62).



Capt. Calhoun traps aboard Independence (CV 62).

Former VT-23 CO **Cdr. Pat Jacobs** surpassed 2,000 T-2 *Buckeye* flight hours.

VFA-125, the West Coast F/A-18 fleet readiness squadron, recorded the 2,000,000th overall flight hour for the F/A-18 *Hornet*. The F/A-18 entered active service with the Navy and Marine Corps in 1981.

VP-4 flight engineer **AMS1 Robert Slattery** recorded his 5,000th flight hour.

The following members of HSL-37 achieved these milestones:

LCdr. Matt Allman—4,500 total hours; **LCdr. Mike Brooks**—4,000 total hours; **LCdr. Joe Rainey**—3,000 SH-60B hours; **Lt. Joe Beadles**—1,000 SH-60B hours; **Lt. Paul Cunningham**—1,000 SH-60B hours; and **AW1 Dave Focht**—3,000 total hours and 1,000 SH-60B hours.

Rescues

Two Marine Corps CH-53E *Sea Stallions* based aboard ***Kearsarge*** (LHD 3), with a platoon-size Marine force aboard, launched and recovered Air Force Capt. Scott F. O'Grady 8 June. O'Grady, an F-16 fighter pilot, was shot down by a surface-to-air missile while conducting a mission in

support of Operation Deny Flight over Bosnia-Herzegovina 2 June. The **HMM-263** helicopters were joined on the rescue effort by two AH-1W attack helicopters, four **VMA-231** AV-8B *Harrier* attack jets, two **VMFA-533** F/A-18 *Hornets* and two Air Force A-10 *Thunderbolts*. Two Navy EA-6B squadrons provided tactical electronic jamming support for the mission. In all, over 40 aircraft from three branches of the armed forces took part in the joint search and rescue effort. O'Grady, who spent six days avoiding capture by hostile Serbian forces, was located and picked up near a major Serb military base. As he was being helped into one of the *Sea Stallions*, the rescue team exchanged gunfire with Serbian troops. O'Grady was flown to *Kearsarge* for medical treatment.

NAS Fallon, Nev., Search and Rescue (SAR) found a lost hiker 30 June after a two-day search. The SAR team launched and searched

PHAN Mike Lewis

unsuccessfully for almost two and a half hours after the Nye County Sheriff's Department requested NAS Fallon's assistance. The team took off again the next day and scoured numerous canyons and ridgelines up to 11,000 feet for over 7 hours before locating the 47-year-old man. He was found at 7,500 feet elevation approximately 70 miles southeast of Fallon. The hiker suffered only minor scrapes and bruises and was delivered to the sheriff at the rescue base camp.

The crew of an **HSL-47** *Saberhawks* SH-60B helicopter, based at NAS North Island, Calif., answered a call to rescue two badly injured victims of a civilian small aircraft crash. The plane went down approximately 10 miles south of Mount Whitney. The HSL-47 crew touched down in a nearby meadow, allowing AW3 William Babin to prepare the victims (who were both suffering from severe cuts, bruises, shock and exposure) and their uninjured dog for transport. All three were flown to Lone Pine Airport and taken by ambulance to Southern Inyo Hospital.

NAS Whidbey Island, Wash., Search and Rescue (SAR) recovered a hiker at 6,200 feet elevation on Mount Baker. The victim fell into a crevasse on Coleman Glacier and sustained head, neck and leg injuries. The SH-3H *Sea King* helicopter crew lowered HM3 Mike Turkenkopf and a rescue litter to the glacier. The corpsman performed emergency first aid and prepared the hiker for pickup. The SH-3H pilot, Lt. Dave DeMarsh, held the helicopter in hover while Turkenkopf and the injured person were hoisted into the aircraft. The victim was flown to Bellingham International Airport, loaded into an awaiting ambulance and taken to Saint Joseph's Hospital.

The crew of an NAS Norfolk, Va.-based **VAW-120 E-2C Hawkeye** successfully coordinated a search and rescue (SAR) effort with an Air Force KC-135 tanker and the NAS Oceana, Va., SAR unit. The crew of the KC-



A VAW-120 E-2C Hawkeye in low-level flight over the Atlantic Ocean.

135 located Air Force Capt. Vance Bateman and Navy Lt. Jerry Seagle, who were forced to eject from their NAS Oceana, Va.-based F-14 *Tomcat* over the Atlantic Ocean, and notified the crew of the E-2C. The *Hawkeye* crew then alerted NAS Oceana SAR, which launched its rescue helicopter. The SAR helo, using vector information from the crew of the E-2C, recovered the downed F-14 aviators within an hour after they were forced to leave their aircraft. Bateman and Seagle, suffering from mild hypothermia, were transported to Oceana.

The crew of an NAS Jacksonville, Fla.-based **HS-3** SH-60F *Seahawk* helicopter rescued an F-14 *Tomcat* radar intercept officer (RIO) after he was forced to eject over the Mediterranean. The F-14's pilot was plucked from the water by the crew of a helo operating from *Hue City* (CG 66). The *Tomcat*, based aboard *Theodore Roosevelt* (CVN 71), went down during an attempt to make an emergency landing at NAS Sigonella, Sicily. HS-3's crew lowered rescue swimmer AW1 Jim Moore into choppy seas to assist the RIO with the rescue harness. Both pilot and RIO were delivered safely to *Roosevelt*. Moore and the rest of the HS-3 crew, Lt. John Suarez, LCdr. Jerry Boyenga

and AWC Steve Groover, received the Navy Achievement Medal for their heroic actions.

An SH-60B *Seahawk* crew from **HSL-37**, NAS Barbers Point, Hawaii, rescued four civilians from the 55-foot motor cruiser *Syabrite* which was dead in the water and flooding 300 miles south of Honolulu. The crew, embarked aboard *Lake Erie* (CG 70) and on their way home after a six-month deployment, arrived on scene 15 minutes before sunset. Rescue swimmer AW2 Daniel Bennett was lowered into turbulent 8-foot seas and assisted the survivors as they jumped into the increasingly violent water one by one. Once aboard the helicopter, the civilian sailors were treated for fatigue and mild shock by AW1 Dan Stone as LCdr. Mike Brooks and Lt. Paul Cunningham flew them to safety.

Scan Pattern

The aircraft carrier **Abraham Lincoln** (CVN 72) and the fast combat support ship *Sacramento* (AOE 1) collided in the Arabian Gulf on 5 June. One *Sacramento* sailor was injured in the accident, which occurred during underway replenishment. *Lincoln* continued its mission while *Sacramento* was forced to return to port to evaluate topside structural damage.

The International Council of Air Shows (ICAS) Foundation established the **Jan Jones Memorial Scholarship Fund**. It was instituted by John Rux, widower of air show and competition pilot Jan Jones, to help young women overcome some of the financial barriers associated with flight training. Jones, 42, died in May from injuries sustained during a crash landing in Ohio. Tax deductible contributions may be sent to the Jan Jones Memorial Scholarship Fund, ICAS Foundation, 1931 Horton Road, Suite 5, Jackson, MI 49203.

After 25 years of service at NAS Barbers Point, Hawaii, **VP-1** has moved. The *Screaming Eagles* officially joined the aircraft inventory at NAS Whidbey Island, Wash., on 30 June 1995.

AW3(NAC) Carly Renee Harris became the first aircrew-qualified woman Aviation Warfare Systems Operator in the S-3 *Viking* community. Harris earned her designation 3 May and has since been assigned to VS-22 at NAS Jacksonville, Fla.

VA-196 accepted the **last remanufactured A-6E Intruder** in April. Bureau Number 159579 was the last A-6E to be equipped with composite wings at NADEP Alameda, Calif. This particular *Intruder* has been in active service since 24 November 1975.

HSL-94, NAS JRB Willow Grove, Pa., debuted the **SH-2G Seasprite** earlier this year. HSL-94 conducted training aboard *Fahrion* (FFG 22) and at NAS Jacksonville, Fla. The new and improved *Seasprite* replaced the SH-2F and boasts a new engine, an improved transmission system and a state-of-the-art avionics package.

The **VMFA-142 Flying Gators** are back in the carrier aviation business. The 4th Marine Air Wing Reserve F/A-18 *Hornet* squadron earned carrier qualifications (CQ) aboard *George Washington* (CVN 73) in May. VMFA-142's last CQ took place over 25 years ago when the squadron flew A-4 *Skyhawks*. More qualification periods are scheduled for later this year.



Maintenance Training Unit (MTU) 1031, NAMTRAGRUDET, Norfolk, Va., received a retired CH-53A in 1988 for use as a trainer. After extensive reconfiguration, the aircraft's fuselage had to be split in half by NADEP Norfolk personnel so it would fit in NAMTRAGRUDET training spaces. After reassembly, the helicopter was used for five years as a maintenance trainer; it was then retired again—this time slated to be scrapped. Instead, COMPHIBGRU-2 decided to use the chopper as a spotting trainer for aircraft positioning aboard ship. MTU-1031 cut the CH-53 in half (for the second time in its service life) for removal from NAMTRAGRUDET, put it back together, and transferred it to COMPHIBGRU-2.

In celebration of National Presentation Week, this FJ-3M *Fury* joined nine other aircraft from the past and present in the Historical Park at NAS Oceana, Va. The plane is on loan from the National Museum of Naval Aviation, Pensacola, Fla. Capt. William H. Shurtleff, CO, NAS Oceana, is pictured along with several members of Oceana's Aircraft Intermediate Maintenance Department, which restored the aircraft.



A VMFA-142 F/A-18 Hornet traps aboard *George Washington* (CVN 73).





Former Naval Aviator and Alabama native **Admiral Thomas H. Moorer**, USN (Ret.), was inducted into the Alabama Aviation Hall of Fame. Adm. Moorer, a Naval Academy graduate, earned his Wings of Gold in 1936 and went on to become Chief of Naval Operations and Chairman of the Joint Chiefs of Staff. He retired from active duty in 1974.



Navy Fighter Weapons School (Top Gun), NAS Miramar, Calif., reached a major milestone with its new adversary platform. Top Gun replaced its F-16Ns with F/A-18 *Hornets* earlier this year. The school's operations officer, LCdr. Ron Ffield, completed the 1,000th Top Gun F/A-18 flight in one of its 16 *Hornets* on 16 June.

The first group of Officer Candidate School graduates acquired through the **Seaman-to-Admiral** program officially became ensigns at a 20 July 1995 ceremony at NAS Pensacola, Fla. The following graduates were accepted for Naval Aviation training: Ensigns Claude W. Arnold,

Jr., Donald L. Gaines, Michael A. Harbison, Gary F. Keith, Clayton J. Lang, John R. Remertson and Erik M. Thors.

Correction

An *NANews* (Jul-Aug 95) "People—Planes—Places" article named CWO3 Gary E. Cooper as the 1994 Captain Charles J. Nechvatal award as CNO Ground Aviation Maintenance Officer of the Year. Cooper was *nominated* for the Nechvatal Award but actually was named the **1994 COMNAVAIRPAC Maintenance Officer of the Year**.

JO2 Jerry Knaak



Aviation Storekeeper Is 1994 Shore Sailor of the Year

By JO2 Jerry Knaak

Aviation Storekeeper Chief Petty Officer (AKC) (Air Warfare) (AW) Maureen Sims is the Navy's 1994 Shore Sailor of the Year. Sims, a nine-year Navy veteran, said her chief pushed her to become the best. She explained, "[AKC Sabrina Martin] is a leader of the highest caliber. You just

got motivated because you trusted her. She made you set goals. She pushed you." According to Sims, AKC Martin also provided invaluable assistance in preparing for the Sailor of the Year selection boards along the way.

Sims began her naval career in 1986 as an undesignated airman who wanted to become an aviation electronics technician (AT). She was told, however, that she did not possess the math skills to become an AT. This hurdle led her down a different path—to the aviation storekeeper rating. Sims' initial challenges seemed to provide impetus for success in the Navy, and her last assignment brought her hard-earned recognition.

"I was Leading Petty Officer of Material Control in the Aircraft Intermediate Maintenance Department at Naval Air Station, Keflavik, Iceland. I also served as the duty Production Control Manager," Sims said. While in Iceland she became heavily involved in the community, especially with the base beautification program. "I remember one base beautification day. Kids were

having contests to see who could pick up the most trash. It didn't take that long. It was only one day, but what a difference. The base looked great after that," she said. Sims also actively participated in the A. T. Mahan Elementary School's read-a-thon program. "I got involved in things I really believed in."

The 28-year-old Port Huron, Mich., native will now go on to a one-year tour of duty in the Master Chief Petty Officer of the Navy's office. Throughout this upcoming assignment, Sims hopes to enlighten the fleet about available opportunities. "I think the Navy is the most equal opportunity employer in the world. They don't keep anything secret. Everything needed for you to advance, anything you want to do is given to you. All you have to do is get the resources and do it. Don't let anybody tell you you can't," Sims said. "You can't ever give up."

AKC(AW) Maureen Sims plans to "continue to do my best" and one day soon hopes to serve aboard an aircraft carrier.

Change Of Command

3d MAW: Maj. Gen. Terrence R. Dake relieved Maj. Gen. Paul A. Fratarangelo, 23 Jun.

ATKWINGLANT: Cdr. Edward Blind relieved Capt. Bernard M. Satterwhite, Jr., 2 Jun.

CABWEST: Maj. Gen. Paul A. Fratarangelo relieved Maj. Gen. Drax Williams, 23 Jun.

CARGRU-5: RAdm. James O. Ellis, Jr., relieved RAdm. Bernard J. Smith, 23 Jun.

CARGRU-6: RAdm. William V. Cross II relieved RAdm. Michael L. Bowman, 23 Jun.

H&HS Beaufort: Lt. Col. Robert L. Wills relieved Lt. Col. Charles A. Hodges, 22 Jun.

H&HS Tustin: Maj. Norman W. Flake relieved Maj. Craig L. Grotzky, 22 Jun.

HELWINGRES: Capt. Bryan D. Lucas relieved Capt. David W. Moulton, 22 Jul.

HSL-37: Cdr. Charles B. Key III relieved Cdr. Richard F. Sears, 17 May.

HSL-41: Cdr. Garry E. Hall relieved Cdr. Gregory W. Hoffman, 30 May.

HSL-43: Cdr. Steven A. Kiepe relieved Cdr. Richard V. Kikla, 3 Aug.

HT-8: Cdr. William C. Hughes, Jr., relieved Cdr. Brooks O. Boatwright, Jr., 14 Jul.

MACG-38: Col. Donald L. Fleming relieved Col. John R. Garvin, 12 May.

MACS-7: Lt. Col. Dennis M. Loftis relieved Lt. Col. Ronald O. Neher, 7 Jul.

MALS-11: Lt. Col. Gilbert B. Diaz relieved Lt. Col. Raymond Adamiec, 19 Jul.

MALS-14: Lt. Col. Robert M. Welter relieved Lt. Col. Ross D. Pennington, 15 Mar.

MCAS Iwakuni: Col. Robert S. Melton relieved Col. Slade A. Brewer, 7 Jul.

MWCS-38: Lt. Col. Leslie F. Duer relieved Lt. Col. Edward J. Zelczak, Jr., 15 Jun.

MWHS-3: Lt. Col. Michael F. Kimlick relieved Lt. Col. Michael H. Stevens, 20 Jun.

NADEP Norfolk: Capt. Theodore R. Morandi relieved Capt. John C. Bucelato, 14 Jul.

NAESU Philadelphia: Cdr. Carl R. Engelbert relieved Cdr. John D. Van Sickle, 27 Jul.

NAF Mildenhall: Cdr. Patrick J. Sherman relieved Cdr. Thomas E. Denham, Jul.

NAMTRAGRUDET Norfolk: LCdr. David Carlson relieved Cdr. John Dedon, Jun.

NAS Fallon: Capt. Scott C. Ronnie relieved Capt. J. P. Sciabarra, 30 Jun.

NAS Key West: Capt. Linda V. Hutton relieved Capt. Jay M. Munninghoff, 4 Aug.

NAS Kingsville: Capt. Kris T. Ackerbauer relieved Capt. John D. Maxey, 21 Jul.

NAS Meridian: Capt. B. M. Satterwhite relieved Capt. Robert L. Leitzel, 16 Jun.

NAS Whiting Field: Capt. Richard L. Dick relieved Capt. Kris Tande, 7 Jul.

NATTC Milington: Capt. James P. Butler relieved Capt. Barry J. Coyle, 28 Jun.

NAVAIRRES Point Mugu: Capt. R. Stewart Fisher relieved Capt. Mike Kellard, 22 Jul.

NAVREHABCEN Miramar: Capt. J. Jay Brunza relieved Cdr. Thomas J. Gadzala, 21 Jun.

NAVSUPFORCELANT: Capt. Charles H. Smith relieved Capt. Jack Rector, 7 Jul.

PATWING-11: Capt. Franklin D. Bryant, Jr., relieved RAdm. (Sel.) Paul S. Semko, 26 Jun.

RESPATWINGLANT: Capt. Patrick B. Peterson relieved Capt. David C. Hull, Jul.

SEACONWINGLANT: Capt. James B. Renninger relieved Capt. Philip D. Voss, Jul.

TACTRAGRULANT: Capt. Ralph H. Coon relieved Capt. Doug M. Armstrong, Jun.

TRAWING-5: Capt. Robert D. Watts relieved Capt. Kris Tande, 7 Jul.

VA-75: Cdr. Joseph W. O'Donnell relieved Cdr. Thomas F. Keeley, 19 May.

VA-165: Cdr. Mark S. Needler relieved Cdr. Ron P. Stites, 17 Aug.

VAQ-131: Cdr. Carlos A. Sotomayor relieved Cdr. J. Stephen Hoefel, 13 Jul.

VAW-78: Cdr. Craig O. McDonald relieved Cdr. James R. Anderson, Jun.

VAW-123: Cdr. Robert W. Ryan relieved Cdr. Jack E. Frazier, 30 Jun.

VAW-126: Cdr. Martin E. Church relieved Cdr. Martin P. Bricker, 27 Jul.

VFA-22: Cdr. Wade Tallman relieved Cdr. Dave Wood, 21 Jul.

VFA-25: Cdr. Roger L. Welch assumed command following the death of Cdr. Joe Kleefisch, 19 May.

VFA-106: Cdr. George E. Mayer relieved Capt. Matthew G. Moffitt, 16 Jun.

VMA-223: Lt. Col. Douglas L. Lovejoy relieved Lt. Col. Glen W. Duncan, 22 Jun.

VMFA(AW)-242: Col. Eugene J. Fraser relieved Lt. Col. Mark S. Barnhart, 2 Jun.

VMGR-352: Lt. Col. J. Peter Donato relieved Lt. Col. John M. Brady, 13 Jun.

VP-1: Cdr. Mark T. Ackerman relieved Cdr. Woody T. Shortt, 21 Jun.

VP-5: Cdr. Ronald R. Manley relieved Cdr. Richard W. O'Sullivan, 7 Jul.

VP-11: Cdr. David A. Williams relieved Cdr. Paul J. C. Hulley, 7 Jul.

VP-46: Cdr. Harry B. Harris, Jr., relieved Cdr. George D. Davis, 29 Jun.

VP-47: Cdr. Steven L. Briganti relieved Cdr. Mark Skinner, 3 Aug.

VR-53: Cdr. Thomas H. Blake relieved Cdr. Patrick J. Meaney, Jul.

VS-29: Cdr. Mark S. Boensel relieved Cdr. Charles E. Smith, 10 Jul.

VS-30: Cdr. Frank G. Riner relieved Cdr. Bruce D. Remick, 27 Jul.

VS-33: Cdr. Jeffrey K. Dickman relieved Cdr. John Winkler, 14 Jun.

VT-6: Lt. Col. Thomas H. Koger relieved Cdr. Allan R. Topp, 28 Jul.

VT-7: Cdr. Floyd L. Steed relieved Cdr. David A. Burdine, 28 Jul.

VT-23: Cdr. Chris Powers relieved Cdr. Pat Jacobs, 27 Jul.

VXE-6: Cdr. John Morin relieved Cdr. Stephen Gardner, 25 May.

Correction: The Jul-Aug 95 issue incorrectly spelled the name of Cdr. John H. Orem, **VQ-1's** new CO.



Aviation History and Publications Director Retires

By JO2 Blake Towler

On 19 July 1995, after 23 years of dedicated service to the Navy, Commander Michael S. Lipari retired from his last assignment as Director, Naval Aviation History and Publications Division in the Naval Historical Center (NHC).

A native of New Orleans, La., Cdr. Lipari said he decided to go into the military because "it seemed like a good idea at the time." In June 1971 he entered the U.S. Naval Academy and graduated in 1975 with a B.A. in

history. After receiving his wings of gold in February 1977, he then became qualified to fly LAMPS (Light Airborne Multi-Purpose System) helicopters.

Following various assignments in the helicopter community, including HSLs 31, 33, and 34, and recruiting duty, Lipari found himself back at the Naval Academy—but this time as an instructor. Between teaching history and coaching basketball and water polo, he found time to earn his master's degree in history from George Mason University.

Lipari discovered that he liked living in the Washington, D.C., area and wanted to stay there, so when the job at the Naval Historical Center opened up, he jumped at the opportunity. "At the academy, I discovered that I liked the administrative side of the Navy, so it was a perfect job for me," stated Lipari. "History and Naval Aviation . . . what else could anyone want?"

In August 1993 he reported to the NHC where he was responsible for coordinating various projects and special events with museums and other historical activities. He also implemented an aggressive Morale, Welfare and Recreation campaign to

keep the center's spirits at a continual high. Towards the end of his tour, he assumed the role of Acting Deputy Director of the center when the incumbent retired. A skillful athlete and self-proclaimed jock, Lipari still managed to find the time for an occasional racquetball game or tennis match with his "victims" from the center.

Working at the Naval Historical Center was a great experience for Lipari. "This job has given me a greater appreciation of those old aviators from the past, and what they went through back then that allows us to do what we do now," he said. "It gives you a good perspective of what the Navy's all about."

Cdr. Lipari will remain in the Washington area with his wife and family and has already found a new job—teaching physics and history, plus coaching basketball and baseball, at the Bishop Denis J. O'Connell High School in Falls Church, Va. The personnel of the Naval Historical Center wish him "fair winds and following seas," and the *Naval Aviation News* and Naval Aviation History Office staffs add, "Happy Landings!"

ANA Bimonthly Photo Competition

Cash Awards: Bimonthly - \$100; Annual - First, \$500; Second, \$350; Third, \$250.
For deadline and submission details, call (703) 998-7733. Mail photographs to: Association of Naval Aviation Photo Contest, 5205 Leesburg Pike, Suite 200, Falls Church, VA 22041-3863.

The association of Naval Aviation and its magazine, *Wings of Gold*, is continuing its annual photo contest which began in 1989. Everyone is eligible except the staffs of *Wings of Gold* and *Naval Aviation News*. The ONLY requirement is that the subject matter pertain to Naval Aviation. Submissions can be in black and white or color, slides or prints of any dimension. Please include the photographer's complete name and address, and PHOTO CAPTION.



Left, Keith Chapman of San Diego won the bimonthly photo competition with his entry, "Fogged In," which captured a VF-24 F-14 *Tomcat* on the ramp at NAS Miramar, Calif. Above, USAF Senior Airman Steve Thurow received honorable mention for his dramatic shot of a Marine Corps CH-46 *Sea Knight* preparing to insert troops at Hat Yao, Thailand, on 21 May 1995 during a combined amphibious assault rehearsal for Exercise Cobra Gold '95.

By Cdr. Peter B. Mersky, USNR (Ret.)

Allen, Thomas B. and Norman Polmar. **Codename Downfall: The Secret Plan to Invade Japan and Why Truman Dropped the Bomb.** Simon & Schuster, 1230 Avenue of the Americas, New York, NY 10020. 1995. 351 pp. Ill. \$25.

It's hard to believe that we have already come to the end of 50th anniversary events recalling WW II. We are long past D-day and V-E Day observances and are approaching the 50th anniversary of the dropping of the two atomic bombs, the subsequent Japanese surrender, and the dramatic signing of the surrender document on board *Missouri*.

By the time you read this review, we will be entering what might have been the 50th anniversary of the invasion of Japan—but isn't. Some people may wonder: Why write about something that didn't happen? A valid question. Yet, what might have been is very much a part of the overall history of what is arguably the most important event of this century—WW II.

For the soldiers and sailors of both sides, the invasion of Japan would have been Armageddon, resulting in carnage and destruction on a vast scale comparable to the entire six-year worldwide conflict that preceded it. As the Allies planned for it, the Japanese also expended much effort in preparing to meet and repel the invasion. Training classes taught heretofore unarmed civilians in the art of killing the big American invaders with a single, well-placed strike to the abdomen with a knife or bamboo spear. Suicide weapons became force multipliers of the period, ensuring that one dedicated Japanese could obliterate the enemy.

If the huge Allied armada and landing forces had hit the beach as planned in November 1945, the war would have surely entered a final gruesome phase that few could have envisioned only a few years before. Thousands, maybe millions, of casualties would have resulted, dragging the final battle well into 1946.

Leaders on both sides were gravely concerned. The Japanese emperor questioned the continuation of the war when it was plainly lost. Even his most ardent generals, admirals and ministers knew there was little to be gained from more fighting. Yet, when warned of a terrible new bomb that the U.S. threatened to use, Tokyo refused to surrender.

Codename Downfall tells the story of the questions that faced both sides in mid-1945. For the Japanese it was whether to surrender or keep fighting until annihilated. For the Allies, under the new, almost-unknown President of the United States—Harry Truman—the quandary involved planning and preparing for the final assault on the enemy's home territory, or to use the newly developed atomic bomb with its nearly unlimited destructive power.

With so much media attention focused today on the

unfortunate problems involving the *Enola Gay* exhibit at the National Air and Space Museum in Washington, D.C., it is easy to lose sight of the larger arena in which that B-29's single mission occurred. These two experienced authors put events in perspective, using a lengthy workup involving a well-written overview of the Pacific war. The overview will help less knowledgeable readers understand the events leading to the end-of-war situation. It is also true that many veterans who participated in these campaigns didn't always know everything about events that happened beyond the actions in which their units fought.

Using research from original American and Japanese sources, Allen and Polmar describe the mid-war planning that looked ahead to the final stages of operations in the Pacific, and the internal conflicts and their resolutions involving the personalities that had brought the U.S. from the brink of destruction in December 1941 to the pinnacle of victory in 1945.

MacArthur, Marshall, Nimitz, King and other leaders sought to carve out their appropriate niche in the coming display of final Allied ascendancy over Japan. While these titans battled and maneuvered, sailors, marines and soldiers waited to see if they had to fight one more terrible battle before going home. The authors write with thought-provoking directness describing the infighting among the U.S. military leadership and the attitudes of the Japanese as they struggled to decide to sue for peace or fight on to national annihilation.

As the launch date for Olympic—the initial assault on the southernmost island of Kyushu—approached, President Truman asked for closer estimates of U.S. casualties to weigh them against using the atomic bomb. On 16 June 1945 (a month before the bomb was tested in New Mexico), a civilian advisory committee recommended using the new weapon, saying, "we recognize our obligation . . . to use the weapons to help save American lives . . . we see no acceptable alternative to direct military use."

An interesting discussion of Japanese atrocities talks about how Washington agonized over releasing the gory details, many involving American prisoners of war. It did so, fanning American hatred of the Japanese and promoting the country's acceptance of drastic means to take the war to the home islands.

Allen and Polmar have masterfully consolidated a tremendous amount of facts, figures, opinions and actions into a relatively small package, complete with appendices, maps and photos.

As the hubbub surrounding the dropping of the bomb subsides in time, people will still discuss the question of the atomic bomb and its first and only actual use in combat. *Codename Downfall* will help sort it out.

Corrections to Jul-Aug 95

Page 39: The quoted statement in col. 3, "The story of the battle of Okinawa . . ." should not have been a quote, nor attributed to Adm. Mike Boorda.

Page 47, col. 2: The last sentence in the second full paragraph should have read, "The *Super Tom* was actually the F-14B [vice D] (nee F-14A+), and only 24 F-14Ds were delivered."

Kudos

Regarding your Jul-Aug 95 issue, the article beginning on page 26 by Robert L. Caleo—with details of WW II production of *Wildcats*, *FMs* and *Avengers*—is outstanding. Page 31 states: "... the *Avenger* . . . had fast become the heavy hitter on U.S. carriers after making its debut at Midway. . . ." In addition, *Miracle at Midway* by Gordon Prange lists 13 TBDs in *Yorktown* (CV 5), 14 TBDs in *Enterprise* (CV 6), and 15 TBDs in *Hornet* (CV 8) at Midway. VT-8 Detachment, shore-based at Midway, had 6 TBFs.

Also, although my memories of Okinawa are not pleasant, the article on Okinawa in *Naval Aviation News* is worth reading. Page 35 references: "*Enterprise* . . . operating as a 'night carrier' . . . for dusk combat air patrol (CAP)." Under CAG Cdr. William I. Martin (now retired VAdm.), Night Air Group 90 had many missions during the Okinawa campaign, including night CAP, with launch and recovery during hours of darkness—from 14 March to 14 May 1945. Squadron



On 14 May 1945, during the Battle of Okinawa, *Enterprise* (CV 6) was struck by a kamikaze, which blew the No. 1 elevator over 400 feet in the air.

records are available to verify all night operations. CV 6 received kamikaze damage 18 March, crossfire damage 20 March and kamikaze damage 11 April and 14 May, which necessitated major repairs at Puget Sound Navy Yard, Wash.

Naval Aviation News has been an outstanding publication for years, and I look forward to each issue.

A. W. Olson
President, CV-6 Association
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Okinawa

Mr. Reilly's "Okinawa: A Living Legacy" (*NANews*, Jul-Aug 95) brought back vivid memories—both humorous and otherwise. Many a man was transported back 50 years as I was while reading his article. I have two comments to add:

On 28–29 March 1945, VPBs 17, 21 and 28, along with VH-3, left Tanapag, Saipan, for Kerama Retto 15 miles southwest of Okinawa. Heavy weather was encountered most of the way north. Tracking south of Okinawa, VH-3's Lt. W. D. Eddy of Crew 6 touched down as the first U.S. seaplane in the newly secured seadrome. The invasion was in doubt that night. On 2 April Crew 6 flew through the hurricane which we determined to be on a westerly course.

On 7 April a two-plane bombing-shipment mission sighted the Yamato task force. Radioman John Digulio sent the message that guided the aircraft carrier in. Ltjg. DeLaney had been hit and both he and rear seat man Mawhinney bailed out. DeLaney landed within several hundred yards of enemy swimmers, and Mawhinney was never seen again. Lt. Simms placed his PBM between the survivor and the task force as Lt. Hooks landed and rescued the pilot.

VPB squadrons not only carried out their varied missions, but when the need for rescue arose, they saved many lives which might have been lost.

I look forward to each new issue of *Naval Aviation News*, which communicates that today's Navy appreciates what transpired back then.

Lee Roy Way
2800 Roberts Circle
Arlington, TX 76010-2419

Grampaw Pettibone

As the squadron safety officer who conducted the mishap investigation into the incident mentioned in Grampaw Pettibone's column "Into the Icy White" (Jul-Aug 95), I would like to address two points—one is an incorrect statement of fact, the other hits the core of the issue.

1. The pilot in this Antarctic helo accident was, in fact, wearing his gloves at the time of aircraft impact, although Gramps states that he was not and makes a point of how incredible that was. He was wearing ski gloves (as all Antarctic HH-1N pilots do out of necessity). After impact, the spinning/tumbling motion of the wreckage, as it slid off the 200-foot glacier cliff face and rolled to rest, flung the gloves from the pilot's hands. During the post-crash hours, in -20 F temperatures, 60-knot winds and 0/0 visibility, he was unable to locate his ski gloves and gave his survival mittens to the copilot, who had also lost his gloves during the crash. The pilot experienced severe frostbite injuries as he took care of the severely injured copilot.

I had come directly from the Aviation Safety Officer school prior to my arrival at the squadron. I soon found myself repelling down the face of a 200-foot glacier cliff while conducting the mishap investigation. We located all of the gloves that had been flung from the flyers' hands at the spots where the rotation of wreckage had been the greatest.

2. Grampaw Pettibone hit the nail on the head when he pointed out that the 180-degree course reversal in 60 knots of headwind would cause severe loss of indicated airspeed, and this should not have surprised the pilot. Well, it did, and he was not the only person who was surprised. During the endorsement process for this mishap investigation, I fielded many calls, questions and even endured verbal abuse from Naval Aviators who did not understand the physics and aerodynamics involved in such a course reversal. Even after careful explanation of the aerodynamics of course reversals in strong headwinds, many of the Naval Aviators did not grasp the concept or

believe the conclusion. I encountered this same misunderstanding in the early 1980s in the patrol community when geographic features around the airfield in Lajes caused a reduction of 20 to 30 knots headwind component at about 200 feet on short final. Squadron members would not accept that as a reason, so many pilots lost 20 to 30 knots indicated airspeed momentarily on short final.

This demonstrates a general lack of understanding by Naval Aviators of the relationship between aircraft momentum relative to the earth and rapid changes in relative wind—whether due to geographic/atmospheric phenomena or by maneuver-induced phenomena. After all the attention that wind shear and down draft received in the late 1980s due to numerous airline accidents, one would think that this lesson would be in the forefront of Naval Aviators' minds as a hazard to beware. Continued training in this area is warranted.

Grampaw Pettibone was on the money in mentioning this one factor as the major contributor to this accident. But he missed the mark when stating that an Antarctic helo pilot was flying without his gloves—especially since the frostbite injuries suffered by the pilot were not a result of failure to wear gloves but rather his heroism in aiding his copilot.

LCdr. Guy M. Esten
National Defense University
Washington, DC 20319-6000

Ed's note: Gramps appreciates your letter and apologizes for the mistake regarding the gloves.

Hornet Book

Author seeks photos, patches, memorabilia, cruise books and recollections of life on board *Hornet* (CV, CVA, CVS 12) for an upcoming book. Contact Chuck Self, 4437 Norway Dr., Shreveport, LA 71105, 318-861-1629.

Wanted

Author wishes information on Naval Aviator Frank W. "Spig" Wead (1895–1947) for a biography. Particular interest is data concerning his 1924 record-breaking flights. Contact William B. Allmon, 1104 W. McCarty St., Apt. 106, Jefferson City, MO 65109, 314-635-2543.

Reunions, Symposiums, etc.

VF-1 1944–45 reunion, 7–11 SEP, NAS Pensacola, FL. POC: Ralph Kelly, 3349 Cahuenga Blvd. W. #3, Los Angeles, CA 90068, 213-876-4544.

Nassau (CVE 16) reunion, 13–16 SEP, Norfolk, VA. POC: Sam Moore, 10320 Calimesa Blvd. Sp. 221, Calimesa, CA 92320, 909-795-6070.

Attu (CVE 102) reunion, 13–17 SEP, Denver, CO. POC: Jack Moore, 285 Moore Rd., Hackberry, LA 70645, 318-762-4656.

Shamrock Bay (CVE 84) reunion, 14–16 SEP, St. Louis, MO. POC: Fred Griggs, 1989 Dandy Rd., Dallas, GA 30132, 404-445-4770.

VR-22 reunion, 14–17 SEP, Charleston, SC. POC: Stanley Hunt, 5944 Glasgow Rd., Sylvania, OH 43560-1411, 419-882-1723.

Bogue (CVE 9) reunion, 16–19 SEP, Dearborn, MI. POC: Dick Stengel, 2624 Amara Dr. #2, Toledo, OH 43615, 419-536-4185.

Naval Aviation Repair Overhaul Units reunion, 21–24 SEP, Colorado Springs, CO. POC: Lance Bjella, 37046 S. Canyonside Dr., Tucson, AZ 85737-1250, 602-825-8178.

Marine Corps Aviation Association Reunion and Symposium, 21–24 SEP, Arlington, VA. POC: MCAA-95, POB 26126, Arlington, VA 22215-6126, 703-416-0156.

Forrestal (CVA/CVAVT 59) reunion, 23–27 SEP, Virginia Beach, VA. POC: Thomas O'Brien, 2325 Calvin Ave., Norfolk, VA 23518-2209, 804-583-1070.

Makin Island (CVE 93) reunion, 24–28 SEP, Las Vegas, NV. POC: Gus Youngkrist, 1400 Valley View #1067, Las Vegas, NV 89102-1640, 702-870-6285.

1995 Space Programs and Technologies Conference and Exhibit, 26–28 SEP, Huntsville, AL. POC: 1-800-639-2422.

Altmaha (CVE 18) reunion, 26 SEP–1 OCT, Baltimore, MD. POC: Don Dolan, 9670 Jimzel Rd., La Mesa, CA 91942, 619-469-5808.

Boxer (CV/CVA/CSV 21/LPH 4) reunion, 27–30 SEP, Omaha, NE. POC: John Pigman, 39660 Whitecap Way, Fremont, CA 94538-1859, 510-657-2013.

Fanshaw Bay (CVE 70) reunion, 27 SEP–1 OCT, Midland, TX. POC: Duane Iossi, 310 Edwards St., Ft. Collins, CO 80524-3721, 970-482-6237.

Randolph (CV/CVA/CSV 15) reunion, 28 SEP–1 OCT, Jekyll Island, GA. POC: Walter Timmons, 785 Temple Ave., Orange City, FL 32763-4742, 904-775-3721.

VPB-201 reunion, 28 SEP–1 OCT, Lancaster, PA. POC: Warren Schwartz, 38 Troy Dr., Lititz, PA 17543, 717-626-9106.

VP-208/VPMS-8/VP-48/FASRON 105/Marine Detachment NAS Trinidad reunion, 28 SEP–1 OCT, Corpus Christi, TX. POC: John Foley, 1001 Herndon St., Corpus Christi, TX 78411, 512-852-2737.

VF-84 disestablishment, 29 SEP, at 1500 in Hangar 23, NAS Oceana, Virginia Beach, Va., POC: Lt. Jeff Dauz, DSN 433-5345.

Conference of Historic Aviation Writers, 30 SEP–1 OCT, Dayton, OH. POC: CHAW VII, Sunflower University Press, 1531 Yuma Box 1009, Manhattan, KS 66502-4228, 913-539-1888.

VF-53 reunion, 1–5 OCT, Charleston, SC. POC: C. W. Barrett, 2 Weldon Ct., Pinehurst, NC 28374, 910-215-0157.

Santee (CVE 29) reunion, 2–5 OCT, Cincinnati, OH. POC: James Day, 8830 Brougham, Sterling Heights, MI 48312-3529, 810-264-6438.

VC-35/VA(AW)-35 reunion, 4–8 OCT, Pensacola, FL. POC: Ruben Escajeda, 7664 Le Conte Dr., El Paso, TX 79912, 915-585-3468.

Long Island (CVE 1) reunion, 5–7 OCT, Milwaukee, WI. POC: J. A. Price, 12144 West Verona Ct., Milwaukee, WI 53227, 414-541-3139.

Carrier Air Group 153-15 reunion, 5–8 OCT, Corpus Christi, TX. POC: Al Rappuhn, 10920 Manatee Dr., Pensacola, FL 32507.

Marine Air Traffic Controllers Association reunion, 5–8 OCT, San Diego, CA. POC: Boyd Murdock, 1935 River Bend Rd., Heber Springs, AR 72543, 501-362-3008.

Saipan (CVL 48) reunion, 5–8 OCT, Pensacola, FL. POC: Max Ingram, POB 1255, Interlachen, FL 32148, 800-476-4979.

Lake Champlain (CV/CVA/CSV 39) reunion, 6–8 OCT, Ellenville, NY. POC: Phillip Nazak, POB 34, Vestal, NY 13851-0034, 607-729-5192.

EAA East Coast Fly-in, 6–8 OCT, Wilmington, DE. POC: EAA East Coast Fly-in Corp., 2602 Elnora St., Wheaton, MD 20902-2706, 301-942-3309.

Langley (CVL 27) reunion, 6–8 OCT, San Diego, CA. POC: William Thompson, 7925 Canna Dr., Port Richey, FL 34668, 813-862-0997.

Philippine Sea (CV-47) reunion, 10–15 OCT, Daytona Beach, FL. POC: Chuck Davis, POB 8020, Port Charlotte, FL 33952-8020, 800-840-8085.

Cabot (CVL 28) reunion, 11–15 OCT, Norfolk, VA. POC: Harold Suter, 3430 Longhorn Dr., Colonial Heights, VA 23834, 804-520-7649.

NAS Kaneohe Bay (1939–50) reunion, 11–15 OCT, Springfield, MO. POC: Larry Jessip, 1005 Bland St., Canton, MO 63435-1234, 314-288-3000.

Kula Gulf reunion, 12–15 OCT, Mystic, CT. POC: Arvel Jack Dotson, 601 Avalon Ave., Virginia Beach, VA 23464, 704-322-5445.

NB Guantanamo Bay reunion, 12–15 OCT, Jacksonville, FL. POC: Stanley Hunt, 5944 Glasgow Rd., Sylvania, OH 43560-1411, 419-882-1723.

Oriskany (CVA 34) reunion, 12–15 OCT, Oriskany, NY. POC: Bob Heeley, POB 517, Oriskany, NY 13424-0517, 315-736-7529/2751.

Saratoga (CV 3/CVA 60/CV 60) reunion, 12–15 OCT, San Antonio, TX. POC: Tony Tonelli, POB 34958, Las Vegas, NV 89133-4958, 702-656-1776.

Pensacola Pre-Flight Class 39-65 reunion, 20 OCT, Pensacola, FL. POC: Erik Rigler, POB 460006, San Antonio, TX 78246-0006, 210-497-8704.

VP-94 Silver Anniversary reunion, 20–21 OCT, NAS JRB New Orleans, LA. POC: Lt. Will Soper, NAS JRB New Orleans, LA 70143-5000, 504-393-3143, DSN 363-3143.

Wings Over Houston Airshow Festival, 21–22 OCT, Houston, TX. POC: Vollmer Public Relations, 713-546-2230.

Princeton (CV 37/LPH 5) reunion, 23–25 OCT, Las Vegas, NV. POC: Bob Neumeyer, 8666 Lake Murray Blvd., San Diego, CA 92119, 619-287-6806.

Air Group 27 reunion, 24–26 OCT, Cocoa Beach, FL. POC: Leo Ghaslin, Jr., 510 Dadson Dr., Lansing, MI 48911, 517-882-0035.

Independence (CVL 22) reunion, 25–29 OCT, Las Vegas, NV. POC: Herman Backlund, 126 N. Brentwood Dr., Tomoka Heights, Lake Placid, FL 33852, 813-465-0838.

Naval History Symposium, 26–27 OCT, Annapolis, MD. POC: History Dept., U.S. Naval Academy, 107 Maryland Ave., Annapolis, MD 21402-5044, 410-293-6376.

Suwannee (CVE 27) reunion, 27–29 OCT, Orlando, FL. POC: Edgar Glenn Tibbs, 4805 Hemp Way, Cocoa, FL 32926-4629, 407-636-3008.

