A HISTORY OF U.S. NAVY
FLEET AIR RECONNAISSANCE SQUADRONS ONE AND TWO
(VQ-1 AND VQ-2)

by

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June 1986

This history is dedicated to those two hundred and four men who gave their lives under hostile fire and in aircraft accidents while involved in airborne electronic reconnaissance. Memories of their ultimate sacrifice and dedication will bear the VQ community through the lean years.

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"Greater love hath no man, that he give up his life for others."

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Author's Preface

To my knowledge, this is the initial attempt to produce a written history of the U.S. Navy's two Fleet Air Reconnaissance Squadrons, VQ-1 and VQ-2. It is the story of a highly dedicated group of men and women who seem to be permanently religated to second class citizen status within Naval Aviation, even though their product has been repeatedly praised by operational commanders as the "vital force multiplier." Yes, this is the story of the U.S. Navy's own "band of gypsies" . . . experts in the art of community survival and "midnight small stores," who produce a first class product with "hand-me-down" aircraft and equipment.

The small size of the airborne electronic reconnaissance community, and the classified nature of its squadron operations, have discouraged attempts to tell this story in the past. Consequently, there was very little previously published information to be found for this undertaking. The squadron history summaries (OPNAV Forms 5750-2) were infrequently submitted and were of little value because the "classified mission" waiver usually resulted in a blank narrative section. Fortunately, the few narrative sections that were completed (now declassified), provided some crucial information. The majority of the information for this VQ-1/2 history; however, came from dusty cruise boxes and the memories of the "old timers" of the community. The gaps were filled in by the author's personal recollections of thirty years in the reconnaissance business and numerous weekends spent in the extensive Naval War College Library at Newport.

Specifically, I am grateful to CAPTs "Jack" Taylor and "J.D." Meyer who took the time to make corrections to the first draft, and to provide photographs, newspaper clippings and their personal remembrances to this effort. Other individuals who provided significant data inputs and/or photographs were: MCPO Bill Dickson, USN (Ret); MRSRs Winton Lowery, Pete Petersen and Chuck Christman, who were with VQ-1/2 as REWSON employees; LT George Phillips, USN; Mr. Rex Glasby; LCDR Dick McBurnett, USN; CAPT Bob Christman, USN; CAPT Ivan Hughes, USN; Mr. Bob Phillips, Mr. Freeman Dias, Mr. Roy Grossnick of the Naval Aviation History Office, and Mr. Mike Walker of the Navy Operational Archives. Also, my wife Lou contributed significantly to this project with her patient proofreading expertise and encouragement during severe periods of Rhode Island wintertime "cabin fever."

I hope that, as you read this brief history of VQ-1 and VQ-2, you will come away with a real sense of the intense human dramas and frustrations that have marked the evolution of the U.S. Navy's airborne electronic reconnaissance capability. I also hope those U.S. Navy active duty readers in positions of authority today, will come away with an appreciation for the VQ-1/2 contribution to naval operations and a motivation to do their part in rejuvinating this crucial, but very rapidly fading capability.

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Part I

The Beginnings

The Operational Requirement

Tactical commanders tasked with carrying out the fundamental warfighting tasks of the U.S. Navy always require the most accurate and timely information available. This information can be provided through reconnaissance of potentially hostile forces on, under or above the seas, and in related littoral land areas. Therefore, capabilities are needed to collect, process and evaluate various types of information relative to the activities and intentions of these potentially hostile forces. These capabilities must function in a manner which is sufficiently timely to satisfy the immediate needs of the tactical commanders.

Since the advent of electronics, warfare has become increasingly complex. Specifically, in the years since World War Two, there has been a dramatic explosion of electronic technology, and it shows all indications of continuing into the foreseeable future. Today, it is difficult to point to any aspect of warfare, whether it be air, sea or land, that does not involve the use of electronics in some manner. To take this a step further, these electronics associated with sensors and weapons systems, invariably

involve the transmission of signals in the electromagnetic spectrum. By observing foreign military operations through the collection and analysis of these electromagnetic signals, the U.S. Navy has developed and maintained a unique and highly technical capability. Electromagnetic signals exploitation, and the associated timely reporting of this information, has proven to be operationally critical. A tactical commander must be provided with such timely information to update his understanding of who is out there, where they are, the composition of their force, the capability of the force, the intentions of the force, when they are likely to carry out these intentions, and what is their state of operational readiness. An effective signal exploitation system is capable of collecting data relevant to these and other questions, processing and correlating the data to assess its tactical significance, and rapidly passing the synthesized product to the user.

The Fixed-Wing Aircraft as a Solution

Because of certain basic characteristics, the fixed-wing aircraft is a prime platform for the electronic reconnaissance mission. First of all, the aircraft has the mobility and speed to allow rapid movement to the area of operations. Second, the aircraft has an operating altitude which allows it to take advantage of the line-of-sight nature (radio horizon limitations) of signals above the HF portion of the electromagnetic spectrum. Third, aircraft have the range and endurance to transit considerable distances and remain on station for extended periods of time. Fourth, aircraft have the payload capacity to carry considerable quantities of equipment and sizeable operating crews. With these basic

qualities of a fixed-wing aircraft platform, a highly skilled and professional aircrew can effectively collect, distill, correlate, synthesize and transmit the collected intelligence required by the supported commander for timely tactical decision making.

The U.S. Navy first recognized these inherent advantages of a fixed-wing aircraft in the electronic reconnaissance role during World War Two, and has since developed and maintained a capability. The recognition and development of a U.S. Navy airborne electronic reconnaissance capability is the central theme of this work. This research will chronicle the history of the U.S. Navy's Fleet Air Reconnaissance Squadrons One and Two (VQ-1 and VQ-2).

The Initial Considerations

All stories must have a beginning and an end. The story of the U.S. Navy's airborne electronic reconnaissance squadrons has its real beginnings in the great global struggle of World War Two. Just as World War Two was a war of destructive, or "hard kill" weapons, it was also an "electronic" or "soft kill" war. Sir Winston Churchill recognized the latter and termed it the "Wizard War."

Even before entry into the conflict, it became obvious in America that a composite organization of the military, civilian industry, and the scientific community was urgently needed to conduct research and development for the "Electronic War." This became a reality when President Roosevelt directed the creation of the National Defense Research Committee (NDRC) in June of 1940.[11:13] In turn, the NDRC formed the United States Radiation Laboratory at the Massachusetts Institute of Technology four

months later. Since the U.S. had very little information on radar developments in Japan or Germany, the radiation laboratory was tasked with the development of U.S. radar systems, as well as countermeasures for those enemy radar systems.

The Initial U.S. Navy Involvement

The U.S. Navy became directly involved in the "soft kill" solution only four days after the Japanese bombed Pearl Harbor, when a preliminary meeting was held to discuss the formation of a U.S. organization devoted solely to the development of radio countermeasures.[11:19] In short order, a formal conference was held between the Navy and NDRC, resulting in the establishment of the Radio Research Laboratory (RRL) within the Radiation Laboratory at MIT. Out of these beginnings came the first intercept receiver built for airborne use, the P-540, which later evolved into the SCR-587 and finally the APR-1.

Although considerable progress was being made by the British in their "Wizard War" in Europe during the first few months after the Japanese bombing of Pearl Harbor, there were no serious studies made in the Pacific concerning the enemy's use of radar equipment. But then, the "lucky" capture of a Japanese radar system on Guadalcanal caused considerable interest and effort to be expended on electronic reconnaissance in the Pacific theater.

Meanwhile, the Naval Research Laboratory at Anacostia had been involved to some degree in radar and radio experiments since the 1920s. By 1942, their efforts had resulted in the production of a few crude crystal-type intercept receivers suitable for airborne use. These receivers, designated XARD, had a frequency

coverage of 50-1,000 MHz.[11:48] In a crash program to get a U.S. Navy airborne electronic reconnaissance capability to the Pacific, in September 1942, six radioman petty officers were selected to attend a two week cram course on the new XARD system. These six men had just completed the Radio Material School near Anacostia. At the conclusion of their training on the XARD, they were formed into a detachment designated Cast Mike Project NR 1 (Cast Mike for Countermeasures) and, along with their new equipment, transferred to Hawaii.[11:48] Two of these men, Chief Petty Officer Jack Churchill as the POIC, and Petty Officer Robert Russell, soon departed Hawaii for the Pacific War Zone. The Cast Mike Team arrived at the headquarters of the Commander Air South Pacific on Espiritu Santo in the New Hebrides Islands in early October.

The mode of operation at Espiritus Santo for the Cast Mike Team was to "hitch hike" themselves and their experimental electronic reconnaissance equipment on any aircraft operating from the area that was large enough for the "extra baggage," and whose mission profile was generally compatible with that of conducting reconnaissance.

The Initial Missions

Churchill and Russell soon had their XARD receiver installed in a U.S. Army Air Force (AAF) B-17 FLYING FORTRESS belonging to the 11th Bomb Group. Appropriately, this B-17 carried the name "Gooney Bird." CPO Churchill flew with the first B-17 electronic reconnaissance mission on 31 October, 1942 from Espiritu Santo to Guadalcanal and Bougainville and the return.[11:49] Unfortunately, even for such a historic occasion, no Japanese radar signals were

intercepted. During the next month, an additional seven B-17 electronic reconnaissance missions were flown to the Solomons and New Britain, but still no enemy radar signals were detected. Whether this lack of signal intercept was a result of the primitive XARD equipment, or a paucity of Japanese radars in the region at that time, is not entirely clear.

The next month, in December of 1942, Churchill and Russell began flying their XARD receivers on U.S. Navy PBY-5A CATALINA amphibian aircraft belonging to Patrol Squadron Seventy Two (VP-72). 11:55 The U.S. Navy CATALINA aircraft operating in this theater were painted black and flew primarily at night. Consequently, they picked up the nickname "Black Cats." The Cast Mike Team gypsies "hitchhiked" missions with the VP-72 "Black Cats" from bases at Guadalcanal and Espiritu Santo, performing electronic reconnaissance missions around the Solomon Islands. The Cast Mike gypsies continued their airborne electronic reconnaissance missions throughout the remainder of 1942, using B-17 and PBY-5A host aircraft; however, no Japanese radar signals had yet been intercepted by their NRL XARD receivers.

Parallel U.S. Army Air Force Operations

Meanwhile, the U.S. Army Air Force was dedicating considerably more funding and personnel to their embryonic airborne electronic reconnaissance effort. Instead of a ragtag band of gypsies who hitchhiked on aircraft belonging to other units, the Army Air Force developed a coherent program which would soon pay dividends. While RRL was designing and fabricating the first production airborne electronic reconnaissance equipment in the fall of 1942, the Army

Air Force established a four-week radio countermeasures course at their Airborne Radar School in Boca Raton, Florida. Upon graduation, these officers were designated as Radio Observers. At this same time, the AAF Chief of Staff, General "HAP" Arnold, directed the initiation of a "crash" program to develop a dedicated airborne electronic reconnaissance capability. This project, code named "Ferret," turned out to be a modified B-24D LIBERATOR bomber, equipped with the SCR-587 receiver and a developmental version of a radar pulse analyzer.[11:53] The pulse analyzer became a vital tool to assist the airborne operators in identifying the type of enemy radar being intercepted.

After its completion in February 1943, the modified B-24D "Ferret" electronic reconnaissance aircraft, with two Boca Raton Radio Countermeasures Course graduates on board, deployed to Adak, Alaska. On 6 March the B-24D flew the first successful AAF electronic reconnaissance mission, gaining valuable data on Japanese radars installed on the Aleutian Islands of Kiska.[2:96] The success of this initial AAF airborne electronic reconnaissance program soon led to a second generation platform. This time, a few B-17 FLYING FORTRESS aircraft were acquired and fitted with the latest equipment available from RRL efforts, including the APR-1 and the newer APR-3 wideband receivers, pulse analyzers, and most importantly, a direction finding (DF) capability. Although this initial airborne DF capability was crude, it nevertheless allowed the aircrew to obtain several lines of bearing on the intercepted radar signal so that its location could be determined.

Meanwhile back stateside, on 24 May 1943 the Navy organized Special Project Unit Cast at NAS Squantum, Massachusetts under a Bureau of Aeronautics directive. Special Projects Unit Cast was tasked to provide the services required to flight test the electronic equipment being developed at the Radio Research Laboratory.[6:124] Perhaps the Navy finally recognized the failure of the XARD in its wartime "OPEVAL," and decided to conduct realistic airborne tests on future equipment before deploying them to the war zone!

Success at Last

Early in 1943, the U.S. Navy Cast Mike Team in the Pacific were provided a few ARC-1 receivers (Navy version of SCR-587), which were a vast improvement over the experimental XARD system.[11:56] CPO Churchill and Petty Officer Russell had continued their missions with U.S. Navy PBY-5A CATALINA squadrons resident in their part of the South Pacific. On the night of 18 June, while flying with a VP-54 crew, they acquired their first successful intercept of a Japanese radar signal![11:133] The enemy radar signal was intercepted while flying near the Shortland Islands, just south of Bougainville. Unfortunately, the Navy had not provided the Cast Mike Team with an airborne DF capability like that of the AAF; therefore, it was impossible for Churchill to pinpoint the location of his all-important initial Japanese radar intercept.

With no prospect of acquiring airborne DF equipment in the near future, CPO Churchill and his team did what VQ squadrons continue to do even today in their "Special Projects" or "Bicycle

Shops" - improvise their own "missing" capability. Assisted by the VP-54 metalsmith personnel, they constructed a pair of yagi-type directional antennas which they installed on either side of the CATALINA's nose, pointing forward. The "Rube Goldberg" antennas were then connected through a receiver switching assembly to a cathode ray tube (CRT) display unit, where the signal strength could be interpreted by the operator as being to the left or right of the aircraft. Through coordination between the CATALINA pilot and the Cast Mike operator, the aircraft could be steered until it was pointing directly toward the intercepted radar site. At this point, a line of bearing would be logged. After repeating this procedure at several geographically separated points, a reasonable "fix" of the radar site could be calculated.

On the night of 8 September 1943, the Cast Mike and VP-54 team obtained three good lines of bearing on the Japanese radar signal, and established its position on Poporang Island south of Bogainville.[11:134] Following this initial successful USN airborne electronic reconnaissance mission, a photographic reconnaissance aircraft obtained photography of the enemy radar site, and it was then attacked by fighter-bombers.

The Navy Takes the Next Step

After their long and arduous struggle to prove the concept of USN airborne electronic reconnaissance, CPO Churchill and his Cast Mike Project #1 Team were disbanded in the fall of 1943. However, this unique band of gypsies, operating with begged, borrowed, stolen and improvised equipment, while flying on "other folks" aircraft, had nevertheless performed a major service to their country,

their service, and to the future of U.S. Navy airborne electronic reconnaissance. Many years later, in recounting his experience as an airborne electronic reconnaissance operator, Commander Jack Churchill commented that he had "started his Navy career in electronic intelligence and when I retired, I was still in electronic intelligence."[11:257]

In the place of the Cast Mike Team, the U.S. Navy slightly upped the ante in airborne electronic reconnaissance by organizing several teams of aircrew officers to carry out much the same program as that accomplished by Churchill and his men. These officer teams continued the marginally-satisfactory procedure of temporarily installing radar intercept equipment into resident theater U.S. Navy patrol (VP) or patrol bomber (VPB) aircraft, and operating the equipment during those missions. One of those electronic reconnaissance team members was Lieutenant Lawrence Heron, who along with another officer, reported to Henderson Field, Guadalcanal in November 1943. There they joined Patrol Squadron One Zero Four (VP-104), flying PB4Y-1 LIBERATOR AIRCRAFT.[11:137] Circumstances were not much different for LT Heron than they had been for CPO Churchill. Heron still had to fabricate his own installation rigs to enable the APR-1 receivers and other equipment to be transferred from one aircraft to another. As unbelievable as it may seem, there was still insufficient support within the U.S. Navy for the electronic reconnaissance mission to acquire a few dedicated aircraft <u>solely</u> for the task.

<u>The Formation of a Support Element</u>

Late in 1943, a major event occurred when a new headquarters unit was formed in the Southwest Pacific theater for coordination of allied electronic reconnaissance activities in the area. The new unit, designated Section 22 of General Headquarters included personnel of all U.S. military services along with our British, Australian, New Zealand and Dutch Allies. Section 22 was responsible for collecting information on enemy radar and radio systems, analysis, dissemination of the resulting intelligence, and requisitioning and assigning electronic countermeasures/reconnaissance personnel and equipment.[11:138] The need for such an organization in the theater had been evident for some time. By mid-1943, USAAF B-24 "Ferret" electronic reconnaissance aircraft had been assigned to the southwest Pacific theater and shortly thereafter Section 22 was beginning to assemble a detailed picture of the Japanese radar network in the area. Section 22 would quickly note the more effective operations of the "dedicated" AAF B-24 "Ferret" aircraft and soon force the U.S. Navy into a similar mode of operation.

Meanwhile, as the momentum of the war in the Pacific switched over to the Allies, and our ground forces began the island hopping advance toward Japan in early 1944, the airborne electronic reconnaissance asset joined the northward migration. In March of 1944, U.S. Navy Patrol Bomber Squadron One One Six (VPB-116), based on the freshly captured Eniwetok Atoll, began flying electronic reconnaissance missions around the strategic Japanese Naval Base at Truk in the Caroline Islands. The VPB-116 PB4Y-1 LIBERATORS, with their electronic reconnaissance "hitchhikers," were tasked to locate and collect information on the Truk Island Japanese radar

installations. This data proved extremely valuable during the following carrier air strikes on the Island.[11:143]

The Navy is Dragged into the Future

By the spring of 1944, it became painfully clear that the AAF's permanently modified "Ferret" aircraft, entirely dedicated to the mission of electronic reconnaissance, were markedly more effective than the makeshift intercept installations temporarily installed on the rotating Navy Patrol and Patrol Bomber Aircraft, and operated by "gypsy" aircrewmen. In recognition of this glaring fact, Section 22 directed the formation of a "dedicated" Navy unit, where all its personnel, equipment and aircraft would be responsible solely for the electronic reconnaissance role.

The Navy selected an "old hand" to form and lead this new "dedicated" airborne electronic reconnaissance unit, Lieutenant Lawrence Heron. The new unit was temporarily based at the Palm Island seaplane base near Townsville, Australia and equipped with two PBY-5A CATALINA "Black Cats" to be modified for the electronic reconnaissance mission.

The Consolidated PBY CATALINA amphibian began life in the 1930s as the PBY-1. The CATALINA went through several airframe and propulsion modifications in the late 1930s to emerge as the PBY-5 and subsequently the PBY-5A in 1940, becoming the U.S. Navy's principal patrol bomber. The PBY-5A was the model primarily employed for electronic reconnaissance. The PBY-5A was powered by two reciprocating engines, capable of 175 knots speeds at a service ceiling of 13,000 feet, and had a crew of seven to nine.

The installation of the ARC-1 receivers in the CATALINA was simple enough, but again, the direction finding antenna system had to be locally manufactured.[11:146] Due to the location of the new DF antenna, pointing downward from the rear fuselage gun hatch, the CATALINA could not take off with the system in place. Instead, it had to be manually attached after takeoff, which created some interesting and exciting situations for LT Heron's crews.

After the Navy had been more or less "forced" to dedicate a few aircraft and men to the function of airborne electronic reconnaissance, on 13 May 1944, the CNO directed the Chief of Naval Air Technical Training to establish a training pipeline for the new mission. The school was to be called the Special Projects School for Air and was assigned to NAAS San Clemente Island, California with training to commence on 1 June 1944.[6:125]

Meanwhile, back in the Pacific, LT Heron completed the modifications and moved his "Black Cats" to New Guinea to begin flying electronic reconnaissance missions from the seaplane bases at Port Moresby and Samari Islands. By June 1944 as the island hopping campaign widened the theater of operations in the Pacific, LT Heron's "Black Cats" were flying electronic reconnaissance missions out of the Philippines.[11:203] He and his small group performed with the utmost distinction and courage throughout the remainder of the war in the Pacific, participating in most of the major battles and campaigns.

The Evolution Continues

By autumn of 1944, the U.S. Navy had been convinced of the merits of electronic warfare in general, and specifically of electronic reconnaissance. Consequently, the Navy was ready to begin employing these airborne capabilities on a much larger scale. Thirteen of the eighteen land-based patrol bomber (VPB) squadrons in the Pacific theater already had some of their aircraft modified to carry the APR-1 radar receiver and the APT-1, APT-5 or APQ-2 radar jamming equipment.[11:207] In addition, a few of the VPB squadron LIBERATOR aircraft were equipped with the newer APR-5 radar receiver to search for Japanese radars in the higher frequency spectrum (microwave). Carrier-based aircraft, such as the AVENGER, also received an allocation of the new electronic warfare equipment.

In the spring of 1945, an important addition to the U.S. Navy electronic warfare effort was made with the arrival of the new PB4Y-2 PRIVATEER aircraft. The PB4Y-2 arrived in theater with Patrol Bomber Squadron One Zero Six (VPB-106). The PRIVATEER was derived from the PB4Y-1 LIBERATOR, and was specifically modified for long range maritime patrol operations with a crew size up to sixteen. In its conversion from the AAF LIBERATOR, the twin-tail was changed to a single tail and a seven-foot extension was added to the fuselage to accommodate the countermeasures compartment. A large number of radomes were also added to cover the countermeasures antennas. Because of these radomes protruding from its skin, the PRIVATEER received the nickname "Wart Hog."[2:98] The countermeasures compartment included the following: for electronic reconnaissance there were APR-1, APR-2 and APR-5 radar intercept receivers with

associated pulse analyzers and direction finding equipment. Additionally, APR-5 and APR-7 communications intercept equipments were available to the operators. If electronic countermeasures operations were required, the PRIVATEER installation included the APT-1, APQ-2 and APT-5 jammers.[11:207] Furthermore, the PRIVATEER's standardized equipment mounting racks allowed the electronic warfare suite the flexibility to be quickly tailored specifically for each mission. With this new capability, VPB-106 immediately began operations by flying barrier patrols in support of friendly naval forces moving in for the assault on Iowa Jima, and the closing moments of World War Two.

The Rush to Demobilize

In the post-war era of rapid demobilization, the fledgling Navy airborne electronic reconnaissance capability suffered. By the end of 1945, the manpower of the RRL was falling dramatically. The U.S. Navy pushed hard to get the development of the new APR-9 radar receiver set completed before the shop doors closed.[11:245] The APR-9 was in fact completed, later manufactured in large numbers, and would be at the heart of U.S. Navy airborne electronic reconnaissance for many years to follow. On 31 December 1946, Special Projects Unit Cast was disestablished at NAS Squantum. The unit's personnel, materials and functions were transferred to the Air Support Division of NRL.[6:154] Even so, the capability would survive. Like most other fields of military endeavor during the post-war period, U.S. Navy airborne electronic reconnaissance undoubtedly survived mainly through the dedicated actions of a few "true believers."

PART II

THE INTER-WAR YEARS

The Lesson Learned Was Soon Forgotten

When World War Two ended in 1945, it would have been difficult to find anyone in the U.S. military establishment who would not have acknowledged the vital importance of aerial electronic reconnaissance. Of course, it had been a long and arduous uphill battle, but in 1945 it appeared the small group of airborne electronic reconnaissance proponents had finally won an influential following. They now felt secure that the United States would never again be found without the technical skills and equipment necessary to fulfill the airborne electronic reconnaissance mission. Unfortunately, this was not the case! In fact, the severe "economy" programs which occurred between the end of World War Two and the outbreak of the Korean Conflict took their toll of the established airborne electronic reconnaissance programs, severely inhibiting the research and development required if the systems, technicians and aircraft were to keep pace with jet-age technology.

Only one year after the war, the massive military demobilization had taken such a toll of technicians and spare parts until a large percentage of all U.S. Navy electronic equipment was inoperative. Since there were too few technicians remaining in the service for electronic equipment repair, and since the radio and radar equipment were fundamentally required for the mission of the aircraft, the second priority electronic reconnaissance equipment fell into a general stage of disrepair.

The New Threat Arises

By 1949, U.S. military planners fully realized they had insufficient information about the location, capabilities and overall technical characteristics of Sino-Soviet Bloc radar systems. Also, the Soviet Union was now involved in the development and testing of high technology weapons systems such as surface-to-air missiles. Therefore, by the beginning of 1950, the collection of electronic intelligence on these systems became a high priority operation for the U.S. military. Such an ambitious collection program however, required reasonably sophisticated electronic equipment. Unfortunately for the United States, most of the equipment built to conduct electronic reconnaissance during World War Two had since been sold to junk and surplus dealers.

When it was decided to equip two patrol squadrons (VP) for a capability to conduct the electronic reconnaissance mission, the U.S. Navy found it had insufficient equipment for the job. The Navy sent two Chief Electronic Technicians to locate and buy back some of the equipment which previously had been sold to surplus and junk dealers.[2:125] Wearing civilian clothes and carrying large quantities of cash, the two Chief Petty Officers rooted through war surplus stores in New York City. They purchased all the intercept receivers, direction finders, pulse analyzers and other electronic reconnaissance equipment they could locate. This equipment was then repaired by Navy technicians and installed in PB4Y-2 PRIVATEER and P2V NEPTUNE aircraft for the high priority electronic reconnaissance or "Ferret" missions around the periphery of the Sino-Soviet Bloc nations, and particularly Russia.

The Navy Takes Two Directions - "Mission Support" and "Dedicated"

In order to accomplish the significant airborne electronic reconnaissance requirements placed on it in the late 1940s and early 1950s, it appears the U.S. Navy took two separate but coordinated directions.

One direction was oriented toward "mission support" of the aircraft in which the electronic reconnaissance equipment was installed. This evolution was primarily reflected in the patrol squadron (VP) where the installed electronic reconnaissance equipment was usually operated by normal squadron personnel as "just another sensor" to assist in the conduct of the squadron's missions of anti-submarine patrol, surface surveillance, bombing, mining and general area surveillance. This U.S. Navy "mission support" airborne electronic reconnaissance effort was fairly significant, considering the proliferation of the new PB4Y-2 PRIVATEER to patrol squadrons worldwide soon after the end of World War Two.

The PRIVATEER aircraft was followed shortly by the introduction of the P2V-series NEPTUNE to the VP squadrons. The Lockheed P2V NEPTUNE entered operational service in 1947 and remained the mainstay of U.S. Navy land-based patrol aviation for fifteen years. The basic P2V evolved into the P2V-1 in the late 1940s and on to the P2V-7 final production model in 1954. Major design changes were introduced in the P2V-5 which first flew in 1950. Then, as the Korean War became hot, a pair of Westinghouse J34 turbojets were added to boost the take-off and speed-over-target capabilities of the two reciprocating engines. This model, with a

ten-man crew, was designated the P2V-5F, and was frequently employed in the electronic reconnaissance role.

Both the PRIVATEER and NEPTUNE aircrews performed routine electronic reconnaissance operations in support of their anti-submarine and surface surveillance missions worldwide. In addition to supporting the anti-submarine and surface surveillance missions of these VP squadrons, their electronic reconnaissance operations often paid high dividends in the intercept of information which was of Navy and national interest, well above and beyond its "mission support" function. Perhaps it was the Communist's appreciation of this fact that accounted for several of their attacks on "normal" VP aircraft during the decade of the 1950s.

The second direction taken by the Navy was oriented toward "dedicated" electronic reconnaissance, performed by highly specialized and trained personnel who conducted their missions in a few specially-configured aircraft. These "special" aircraft operated within normal Navy patrol (VP) or airborne early warning (VW) squadrons. It was this "branch" of U.S. Navy airborne electronic reconnaissance operations which subsequently gave birth to VQ-1 and VQ-2. From the end of World War Two until the early 1950s, these "dedicated" electronic reconnaissance assets remained as a part, or detachments, of otherwise normal Navy squadrons. These squadrons, including the electronic reconnaissance detachments, primarily flew the PB4Y-1 LIBERATOR, PB4Y-2 PRIVATEER or the newer P-2V NEPTUNE. The U.S. Navy "dedicated" airborne electronic reconnaissance units, after getting their start in 1944

with LT Heron's two PBY-5A "Black Cats," struggled along in typical "orphan" style.

Although information on these small "dedicated" units is incomplete, it appears that one each was set up in the Pacific and European theaters of operations. By the late 1940s-early 1950s, the European and Pacific airborne electronic reconnaissance detachments had "settled in" at Port Lyautey, French Morocco and Sangley Point, Philippines respectively. From the limited evidence available, it appears that while the detachments remained in place, the parent squadrons would rotate through the two sites on normal operational deployments. For example, evidence can be found for Patrol Squadrons Seventy Three (VP-73), Sixty Three (VP-63) and Twenty Six (VP-26) operating at Port Lyautey during this post-war period.[6:120/125] Similarly, several patrol squadrons rotated through the Philippines during this same period. Thus, the U.S. Navy's "dedicated" airborne electronic reconnaissance capability, although still an orphan, "hitch hiking" on other folk's aircraft and using "hand-me-down" equipment, was at least beginning to "put down roots" at fixed sites in the two major theaters of operations.

A Dangerous Occupation

Both the Navy's "dedicated" and "mission support" electronic reconnaissance aircraft soon became involved in the peripheral electronic reconnaissance missions, and just as quickly found this to be a dangerous undertaking. In fact, to the crewmembers of the U.S. Navy "Ferret" aircraft, the "cold war" appeared to be a serious misnomer! It was during this era that U.S. airborne elec-

tronic reconnaissance missions became involved in a bloody series of clashes where they were the victims of Soviet, North Korean and Communist Chinese aggression.

This series of air incidents was to last from 1950 until 1969 and would cost the U.S. Navy approximately a dozen electronic reconnaissance aircraft and the loss of at least 79 lives. U.S. Navy electronic reconnaissance was not the only victims of this communist airborne aggression during the post-war period. The U.S. Air Force was also the victim of over a dozen incidents, wherein at least 46 of its airmen were killed from 1949 until 1964. This series of incidents is clearly indicative of the dangers faced by U.S. Navy airborne electronic reconnaissance crews on their daily missions, while also emphasizing the importance the communists place on thwarting enemy aerial reconnaissance in any way possible.

During this tense and turbulent inter-war period of increased communist military perparedness and attempted forceful territorial expansion, it was imperative to maintain U.S. reconnaissance coverage. Electronic reconnaissance was one of the most effective methods of maintaining coverage, and most of the operations were done by fixed-wing aircraft of the U.S. Navy and the U.S. Air Force. These "Ferret" aircraft operated around the periphery of the communist states while intercepting, analyzing and recording electromagnetic signals of interest. These peripheral airborne reconnaissance missions were entirely legal as long as they remained over international waters. However, at the same time,

they were always exceedingly dangerous. The record has shown the communists do not always observe international law.

In this regard, it has been suggested by some that there may have been a trend in international law at that time toward the emergence of a right, especially of communist states, to proclaim and enforce a contiguous zone for the prevention of "passive" electronic reconnaissance by foreign ships or aircraft during peacetime.[5:31] An examination of the evidence, however, does not support such a theory. Instead, the seizure or destruction of foreign electronic reconnaissance ships or aircraft by communist nations has consistently been justified as "legal" by the assertion that such units had penetrated their territorial seas or national airspace. The evidence further indicated communist governments do not appear to have ever officially asserted that electronic reconnaissance from international waters is a violation of international law.[5:30] In summary of this point, although international law does not forbid passive electronic reconnaissance from the high seas during peacetime, and does not empower the coastal state to interfere, such reconnaissance is nevertheless likely to be resented and resisted by the coastal state.

Although the communist states exacted a toll of U.S. electronic reconnaissance flights during this turbulent period, the U.S. has never responded in kind. Despite the fact that communist electronic reconnaissance aircraft have made hundreds of flights along the borders of Canada, Alaska and the continental U.S, and have from time to time strayed from international areas, the U.S. has never attempted to shoot one down.[4:198]

Table 4 contains those communist attacks on U.S. Navy "dedicated" and "mission support" electronic reconnaissance aircraft where significant data exists on the incident. Numerous other attacks on U.S. Navy reconnaissance assets occurred, but were either of a minor nature or no hard information could be located. Each of those incidents contained in Table 4 will be discussed in more detail within the following chronological narratives of VQ-1 and VQ-2.

PART III

THE PACIFIC THEATER AND VQ-1

Korea Rejuvenates the Need for Electronic Reconnaissance

The five short years of peace following World War Two were characterized by an unsteady era usually termed the "cold war." During this period, tensions between the United States and the Sino-Soviet Bloc increased steadily until June of 1950 saw the outbreak of hostilities in Korea. Shortly after the U.S. forces entered the conflict in Korea, it became readily apparent their need for airborne electronic reconnaissance would be even greater than during World War Two. Korea was the first in a series of new conflicts called "limited wars," wherein political considerations were equally important as military considerations. In this new limited war, each decision had to be evaluated in terms of diplomatic consequences. These new considerations drove the need for intelligence to new highs. With the dramatic rise in electronics and particularly in communications, sensor, and navigations systems, the requirements for military electronic reconnaissance was driven correspondingly higher. The U.S. Navy satisfied its airborne electronic reconnaissance requirements in the same pattern developed during the closing months of World War Two - with both "mission support" and "dedicated" assets.

The "mission support" assets remained primarily in the patrol (VP) community. In addition to the routine anti-submarine patrols, weather reconnaissance, coastal and open-ocean surveillance missions, the VP squadrons in the Pacific region during the Korean War

conducted other "special functions," which apparently included electronic reconnaissance. It was probably while involved in one of these special missions on 6 June 1951, that a VP-6 P2V NEPTUNE aircraft was lost to hostile fire. The NEPTUNE was operating in international waters in the Sea of Japan off Russia's Eastern Coast, when it was reported that it was being fired on by Soviet aircraft. The NEPTUNE and its ten-man crew then disappeared off Vladivostok, 32 miles outside Soviet claimed waters.

The Development of a "Dedicated" Unit and Aircraft for the Pacific

In 1950, the Navy began the modification of an aircraft specifically for the electronic reconnaissance role. The P4M-1Q ("Q" for countermeasures) MERCATOR was designed in the mid-1940s and delivered to the fleet in 1950 as the P4M by the Martin Company of Baltimore, Maryland. As a P4M-1Q, it could carry a heavy payload of electronic reconnaissance equipment and a large crew of intercept operators over extremely long distances. The P4M-1Q had an operating range of 2,000 miles and a ceiling of over 17,000 feet. There were two engines in each of its twin nacelles; a reciprocating engine in front and a turbojet to the rear and underneath. With this arrangement, the MERCATOR could cruise at 180 mph to monitor target electronic signal, but could bring the two jet engines on line if attacked by enemy aircraft, and accelerate up to 395 mph.

In October 1951, a "dedicated" U.S. Navy airborne electronic reconnaissance capability came into focus again for the Pacific theater. The Special Products Division of the Air Operations Department was established at the Naval Station, Sangley Point

Philippines. The division, under the leadership of the Officer in Charge, LCDR J.T. Douglas, USN, employed four of the latest P4M-1Q MERCATOR aircraft and was assigned the primary mission of airborne electronic countermeasures for the U.S. Pacific Fleet. The in-flight operators assigned to accomplish the "back end" (of the aircraft) electronic countermeasures tasks were members of Naval Communications Unit 38C, who reported TAD to the Special Projects Division for flight operations. The Special Projects Division continued airborne electronic reconnaissance operations throughout 1952, with LCDR A.W. Sweeten assuming the Officer in Charge duties in December of that year. Some sources refer to this unit as the "Special Electronic Search Project."

More Shootdowns

During the Korean War, one of the primary U.S. Seventh Fleet tasks was to protect Formosa from an attack by the Communist Chinese. At the same time, the presence of Seventh Fleet was required hundreds of miles to the north in Korean waters to conduct air superiority, close air support, battlefield air interdiction and other types of missions in support of the United Nations forces engaged there. In effect, the employment of the "dedicated" and "mission support" electronic reconnaissance capabilities to keep close watch over Formosa, freed the Seventh Fleet units to conduct the more pressing combat operations in Korean waters to the north. These reconnaissance operations made it impossible for the Chinese Communists to mount a surprise attack on Formosa without a timely recall of the Seventh Fleet.

It was during such operations on 18 January 1953, after the Korean truce was signed, that a VP-22 P2V NEPTUNE was shot down off Swatow in the Formosa Strait by Red Chinese anti-aircraft fire. Rescue operations were hampered by fire from Communist Chinese shore batteries and high seas. A U.S. Coast Guard rescue aircraft crashed on takeoff in the rough seas after conducting rescue operations for the NEPTUNE survivors. The total losses in this incident were eleven, seven from the P2V crew and four from the Coast Guard Rescue aircraft crew.[6:194]

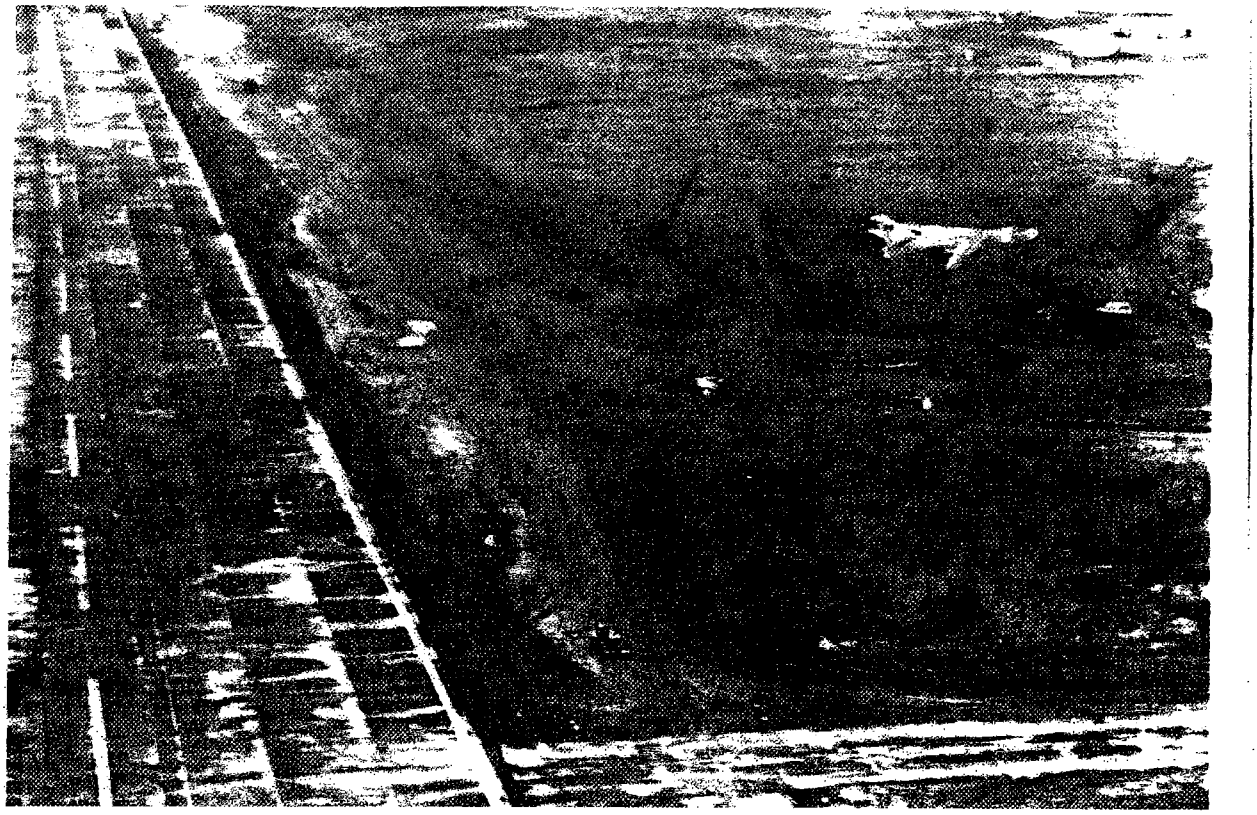
A Reassignment for the "Dedicated" Unit

On 13 May 1953, the Special Projects Division at Sangley Point was reassigned to Airborne Early Warning Squadron One (VW-1) as Detachment ABLE. The electronic reconnaissance complement remained at four P4M-1Q MERCATORS. About a year later, in June 1954, the squadron was redesigned as Airborne Early Warning Squadron Three (VW-3), while the electronic reconnaissance assets remained as Detachment ABLE. At this time, Detachment ABLE had a personnel complement of 22 officers and 110 enlisted men.

The Shootdowns Continue

The "Mission Support" half of the U.S. Navy airborne electronic reconnaissance team also continued to collect intelligence to supplement that of the four VW-1 Detachment ABLE MERCATORS. On 4 September 1954, a VP-19 P2V NEPTUNE, flying from Atsugi, Japan, was conducting a routine mission in the Sea of Japan. The mission was flown over international waters off the Russian Coast. The P2V departed from its base shortly before 1400 local time. The NEPTUNE crew had conducted a routine mission up until shortly after 1812.

17/18. One wheel landing of VQ-1 A3D-1Q at Iwakuni, Japan in January 1959. Pilot - CDR R.C. James (CO); pilot trainee - LTJG J.E. Taylor (on first checkout flight) plus two enlisted crew members. About half way through a training flight, approach maneuvers were being practiced at altitude prior to LTJG Taylor making practice landings. When the landing gear was lowered, the starboard gear remained up. In the A3D-1Q, the plane captain could go back into the bomb bay and visually check the gear through a hole near the wheel well. This was done and confirmed that the starboard gear was still in the well. The CO decided it was time for him to get back in the pilots seat and a swap was made. After several tricks were tried, the wheel would still not move at all, so the decision was made to land on one main and the nose wheels. CDR James did a beautiful job, and as the starboard wing slowly touched the runway, the aircraft made a slow turn into an open field and came to rest. Minimum damage was done to the aircraft, and it was back flying in about a month.



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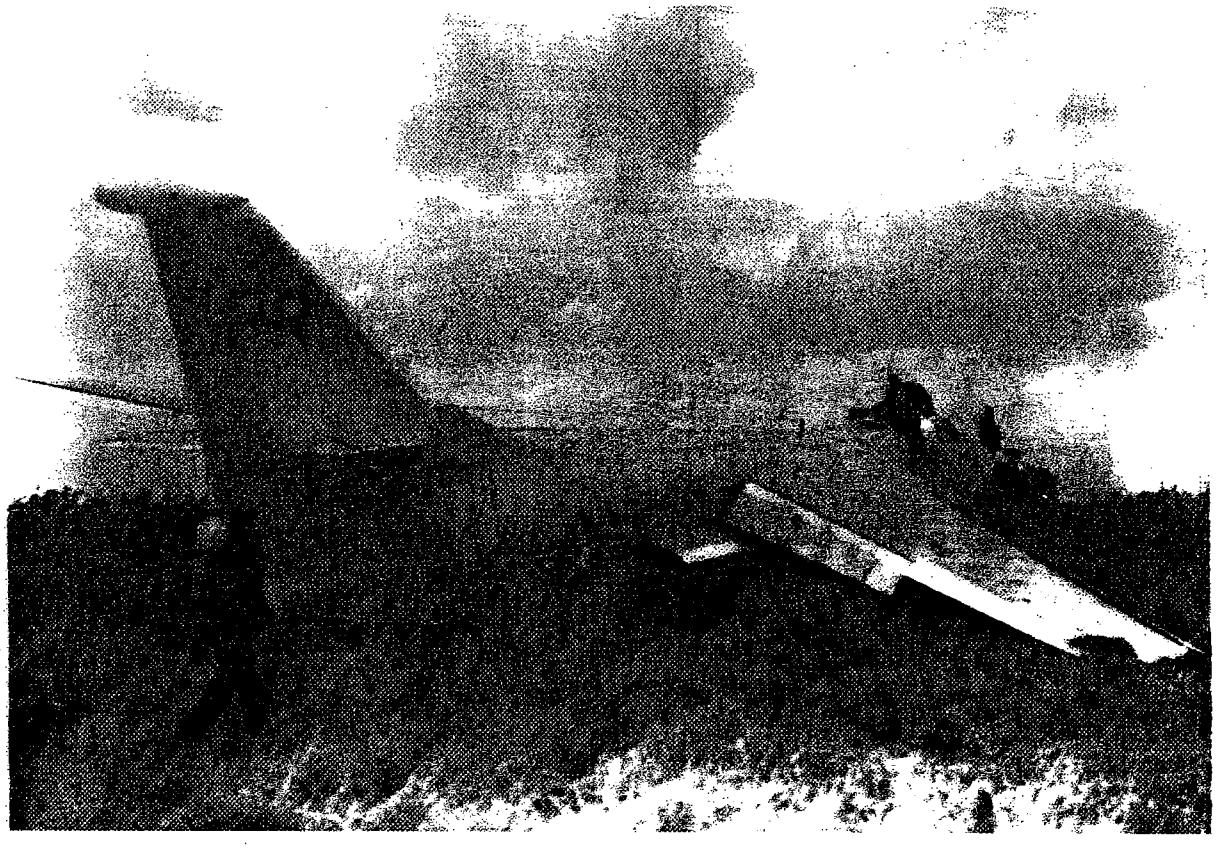


9. A VQ-1 A3D-1Q Det at NS Adak, Alaska June 1960, the two civilians were Tech Reps from the Singer Co. The officers L to R - LTJG Al Bush, EVAL; LT Jack Taylor, OIC; CAPT Henry, CO NAV STA ADAK; LTJG Wayne Osgood, CP/NAV. The others are unidentified.

The two-place F9F-8T COUGAR was used by VQ-1 only as a jet pilot trainer aircraft, since it has no electronic reconnaissance mission capabilities. The squadron acquired a second COUGAR trainer before these aircraft were eventually retired in 1962.

The original design of the CONSTELLATION aircraft was begun in 1939 to meet the requirements of the Trans World Airlines Company. The modifications for the U.S. Navy's WV-2 version of the "CONNIE" was begun shortly afterward. The Navy WV-2 was originally designed to serve as a high altitude radar early warning aircraft. In the late 1950's, eight of these old WV-2's were pulled out of retirement from Litchfield Park and modified extensively by the Martin Company of Baltimore, Maryland to perform the electronic reconnaissance mission. These eight aircraft were designated as WV-2Q SUPER CONSTELLATIONS and fondly referred to as "WILLIE VICTORS" or simply "WILLIES." Four each of these "WILLIES," redesigned as EC-121Ms in 1962, were assigned to VQ-1 and VQ-2 and remained an electronic reconnaissance workhorse for many years.

The new A3D-2Q SKYWARRIOR began life in the post-World War II era when naval strategists began to think in terms of carrier-based heavy attack bombers. By 1947, the basic specifications were set forth for the XA3D-1, which first flew in October of 1952. After some modifications, this new aircraft entered naval service on 31 March 1956 as a nuclear strike capability. In September of that same year, some of the SKYWARRIOR prototype aircraft were modified to the A3D-1Q for the electronic reconnaissance mission. These were as close to "new aircraft" as the

VQ-1/2 community would ever receive. The four-place SKYWARRIORS served the VQ squadrons from 1956 until the arrival of the A3D-2Q in 1959. The "2Q" provided a substantial boost in capability with an increase in crew size from four to seven, and a corresponding increase in electronic reconnaissance equipment. This sizeable increase was accomplished by sealing off and pressurizing the large SKYWARRIOR bomb bay and converting it into a space for four sensor operators. A total of twenty four of these A2D-2Q aircraft were modified for the two VQ squadrons. The A3D-2Q was redesignated as the EA-3B SKYWARRIOR later in 1962. The EA-3B has a maximum speed of 520 knots at 30,000 feet, a maximum altitude of 43,000 feet and a maximum endurance of 5 hours and 30 minutes. The normal take-off weights are 78,000 pounds for shore, and 73,000 pounds for carrier-based operations.

A New Home

While receiving the new aircraft, VQ-1 began the move to a new homeport at Naval Air Station Atsugi, Japan. The move was completed by July of 1960 and the last P4M-1Q MERCATOR aircraft was retired in ceremonies held at Atsugi on 23 July 1960.[7] The squadron now had nine A3D-2Q, four WV-2Q and two F9F-8T aircraft, 62 officers and 373 enlisted personnel.

During the last week of CDR Knopfe's command, an A3D-2Q was lost while conducting a routine training mission at NAS Atsugi. LT H.P. Sams spun in on the runway after waveoff during an aircraft commander check ride. The cause of the accident was undetermined. The remainder of the fatalities in this crash were LCDR A. R. Hodge, AM1 E. Taylor, and AO3 O. J. Cladry.

The Building Storm

On 25 January 1961, CDR T.E. Moore assumed command of VQ-1. During his tenure, VQ-1 grew to a total complement of 75 officers, 383 enlisted and 10 civilian personnel. Then, in 1961 ominous developments began to unfold with a civil war in Vietnam. The crisis there would continue to build with the assassination of Diem in 1963, the coup in January of 1964 and finally the Tonkin Gulf incident in August of 1964. This incident would signal the beginning of a long-term U.S. involvement in Southeast Asia during the Vietnam War - one in which VQ-1 would play a major part in the U.S. Navy role of that conflict. In fact, VQ-1 began flying missions in Southeast Asia as early as the Spring of 1962.

With the building storm in Southeast Asia, VQ-1 continued electronic reconnaissance missions in support of both Navy and national intelligence collection requirements through the early 1960s. Commanders J.W. Jenkins, W.J. Wacker and A.T. Holt commanded VQ-1 through the periods December 1961-November 1962, November 1962-October 1963, and October 1963-November 1964 respectively. On 19 November 1964, six days before CDR Holt would relinquish command, seven members of LCDR Cunningham's EA-3B crew were awarded the Navy Unit Commendation Ribbon for their part in the U.S. response to North Vietnamese aggression during the Gulf of Tonkin incident of 2-5 August 1964.[7]

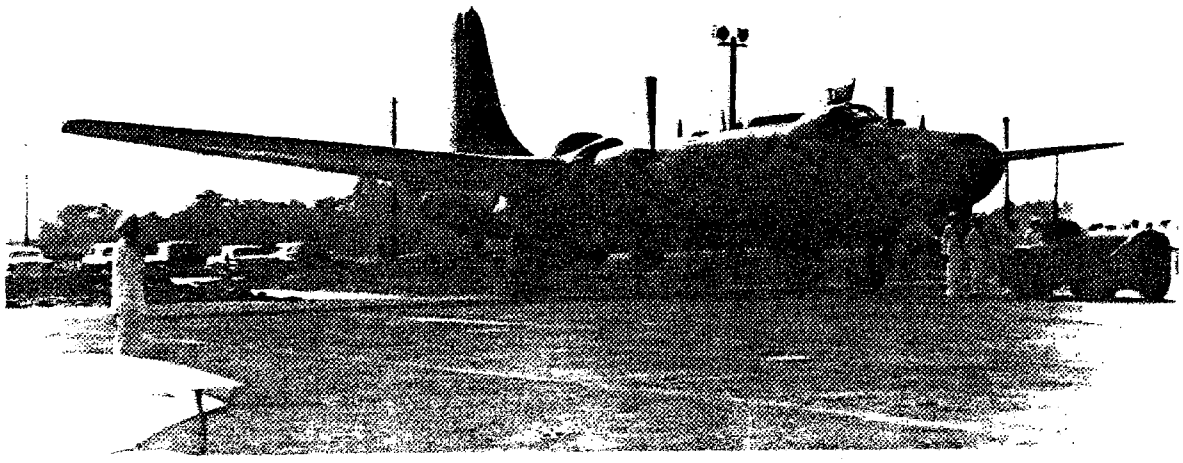
On 25 November 1964, CDR F. Carment, Jr. assumed command of VQ-1 as the United States began to enter the Vietnamese conflict in earnest. During the next nine years, VQ-1 would operate its land-based EC-121M and EP-3B aircraft from Danang, RVN; Cubi Point,

Philippines; Bangkok, Thailand; Tainan, Taiwan; and several other bases, while the EA-3B flew primarily from Danang in support of the Vietnam operation. These electronic reconnaissance missions were flown in support of USN and USAF air strikes, U.S. Army and Marine Corps land campaigns and national intelligence collection requirements.

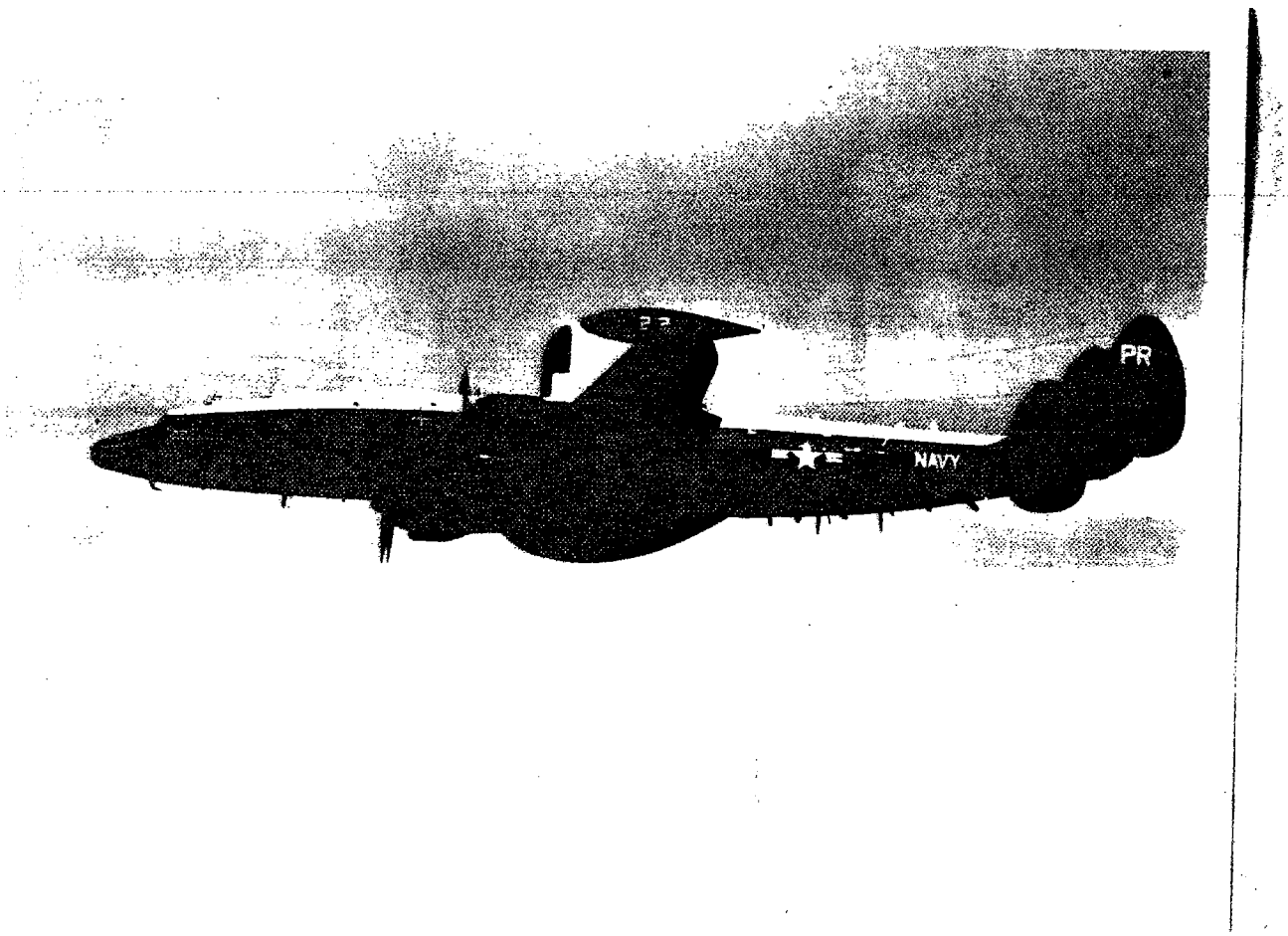
Specific types of support provided by the VQ-1 aircrews were MIG and SAM warning services, electronic order of battle (EOB) updating and electronic intelligence collection in support of combat contingency planning.[7] The VQ-1 SAM warning services were especially crucial to the survival of U.S. Navy aircrews flying over Vietnam targets because of the lack of deceptive ECM (DECM) systems on tactical aircraft at that time.

In recognition of these vital electronic reconnaissance missions, VQ-1 aircrews were presented innumerable awards of the Distinguished Flying Cross, Bronze Star, Air Medal, Navy Commendation Medal, various campaign medals, and two Navy Unit Commendation (NUC) awards. In the citation to the Navy Unit Commendation presented to VQ-1 for the period 1 December 1965 through 30 November 1967, the squadron was cited as "carrying out an extremely broad program of electronic warfare and special intelligence collection of national importance." The citation further stated that VQ-1 "provided invaluable direct tactical support to combat commanders prosecuting the war against communist subversion in Southeast Asia. VQ-1 has won unqualified praise from all branches of the United States Armed Services, and from national intelligence agencies, and is widely considered the

15. This was the last P4M-1Q to retire in VQ-1, during ceremonies held at Atsugi on 23 July 1960.

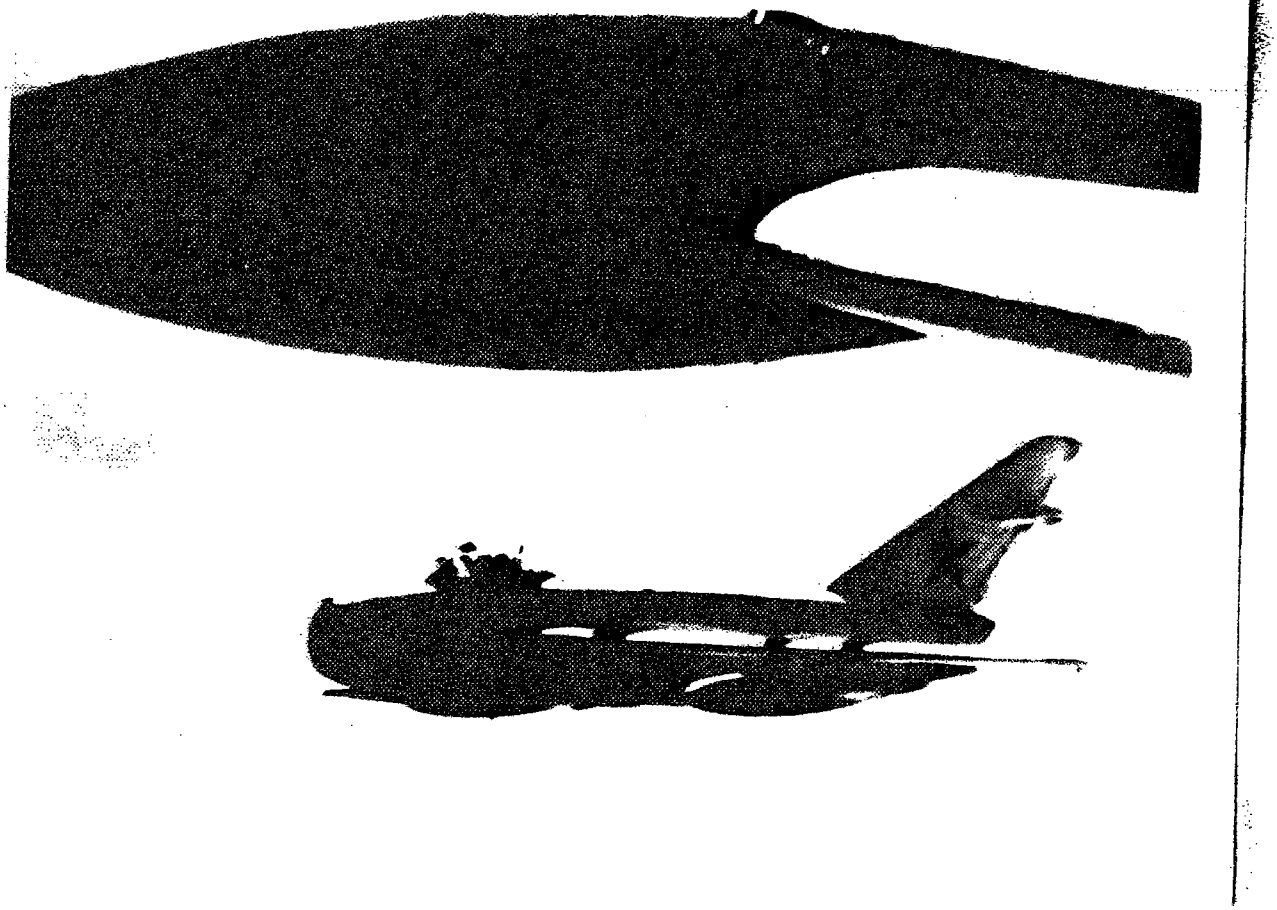


19. VQ-1 EC-121M (PR-22), piloted by LT "J.D." Meyer in 1964.



20. VQ-1 EC-121M (PR-22) in early 1963. Front row (kneeling), left to right: AD2 Laverne Bierdman, AD1 Roy "Knobby" Martin, AT1 Paul Herbig, AD1 Ivan Melsheimer, LT "J.D." Meyer (EWAC), LTJG Mike DeLury, LCDR Ron Barksdale, (unidentified).
Back row (standing), left to right: AT1 Jack Moyra, (unidentified), AE1 Gary Pickett, AT1 Butch Lawson, AMH1 "Chi Chi" Titmas, (unidentified), (unidentified), AT2 O'Hara, (unidentified), (unidentified), (unidentified), LTJG "Bull" Durham, LTJG Bill Todd.

22. A Soviet MiG-15 (FAGOT) is photographed during the intercept of a VQ-1 EC-121M in the Sea of Japan in 1963. The EC-121M wing-tip fuel tank can be seen in the foreground at the top of the photograph.



unquestioned leader in the field of electronic warfare tactical support under combat conditions." Finally, the citation acknowledged that VQ-1 "has been directly instrumental in saving countless lives of U.S. air combat pilots and crewmen over North Vietnam."

And There Were Losses

Although no VQ-1 aircraft were shot down in the hostilities in Southeast Asia, there were instances of damage to squadron aircraft on the ground during enemy rocket attacks at Danang Air Base. Outside the war zone however, in April of 1969, a VQ-1 EC-121M and crew of 31 were lost to hostile fire from North Korean MIG fighters.[6:261] On 15 April, the EC-121M, with LCDR James Howard Overstreet as the mission commander, took off from Atsugi and headed northeast for a routine electronic reconnaissance mission off the North Korean Coast. The flight plan called for the crew to proceed to a point off North Korea's Musu Peninsula. From there, they were to make a number of elliptical orbits, each about 120 miles long. At 1:50 p.m., a little less than seven hours after takeoff, a U.S. Air Force tracking station following the flight of the SUPER CONSTELLATION detected two new blips as a pair of North Korean MIG fighters rapidly closed in on the VQ-1 aircraft. Although a pre-arranged message was sent to LCDR Overstreet ordering him to abort his mission, as the lumbering EC-121M turned away, it was shot down southeast of Chongjin, North Korea with a loss of all thirty Navy and one Marine Crewmen.[12:17] Only two bodies were subsequently recovered, those of LTJG Joseph R. Ribar and AT1 Richard E. Sweeney. In addition to LCDR

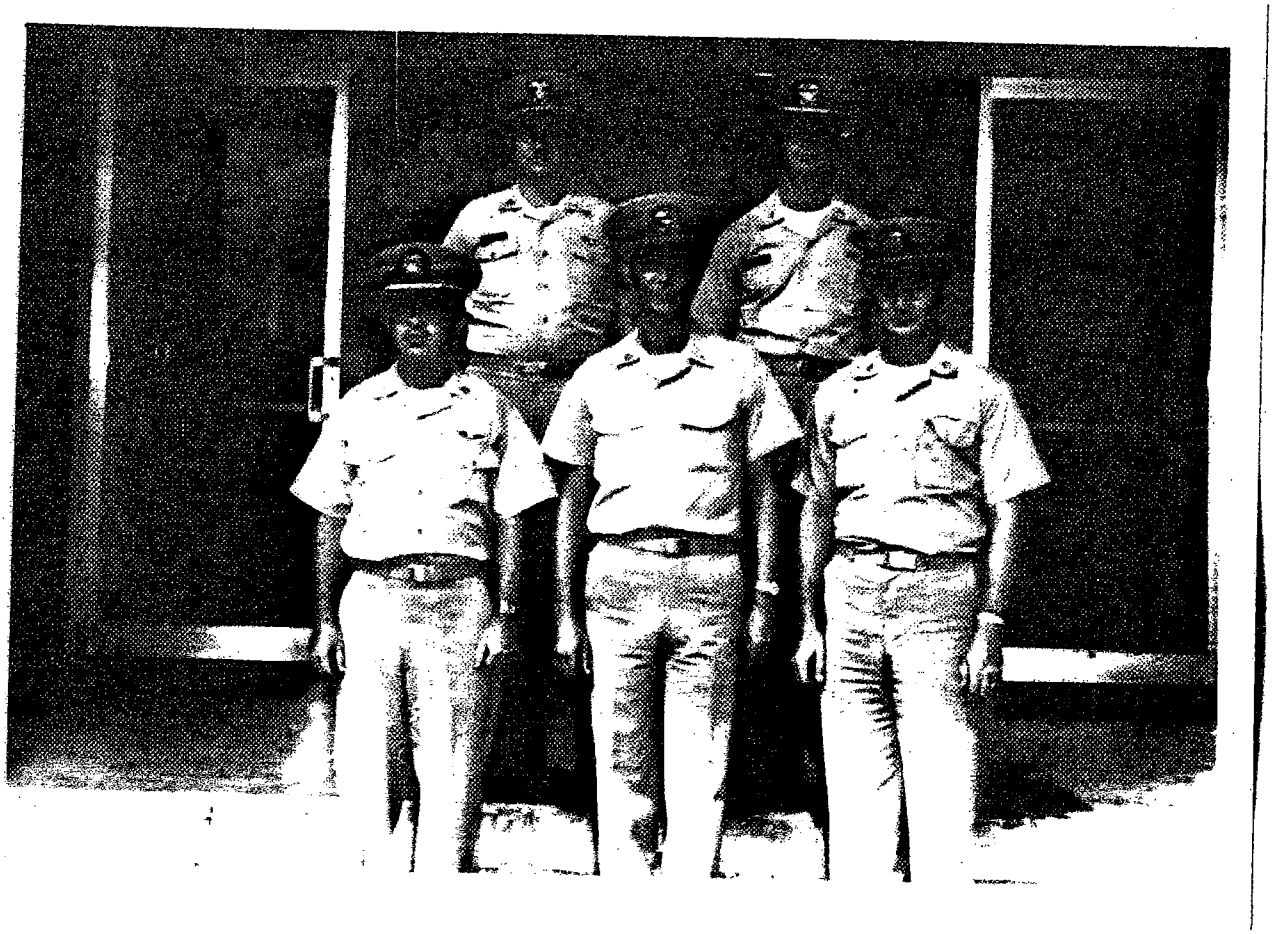
Overstreet, LTJG Riber and Petty Officer Sweeney, those lost in the shootdown of the EC-121M were as follows: Lieutenants John Dzema, Dennis B. Gleason, Peter P. Perrottet, John H. Singer, and Robert F. Taylor, Lieutenants (JG) Robert J. Sykora and Norman E. Wilkerson, Chief Petty Officers Laverne A. Greiner, Marshall H. McNamara and Richard E. Smith, Petty Officers First Class Steven C. Chartier, Bernie J. Colgin, Bailard F. Connors Jr., James L. Roach, and John H. Potts, Petty Officers Second Class Louis F. Balderman, Dennis J. Horrigan, Richard H. Kincaid, Frederick A. Randall, and Stephen J. Tesmer, Petty Officers Third Class Gene K. Graham, David M. Willis, Gary R. Ducharme, John A. Miller, Jr., and Philip D. Sundby, Airman Richard T. Prindle and USMC Staff Sergeant Hugh M. Lynch. Immediately after the incident, President Nixon ordered a halt to these reconnaissance missions in the Sea of Japan. The frequency of these missions had been averaging more than 60 per month until this time.[1:184] President Nixon ordered the electronic reconnaissance resumed three days later however, but this time with the protection of Task Force Seventy One (TF-71).[6:261]

New Capabilities Arrive

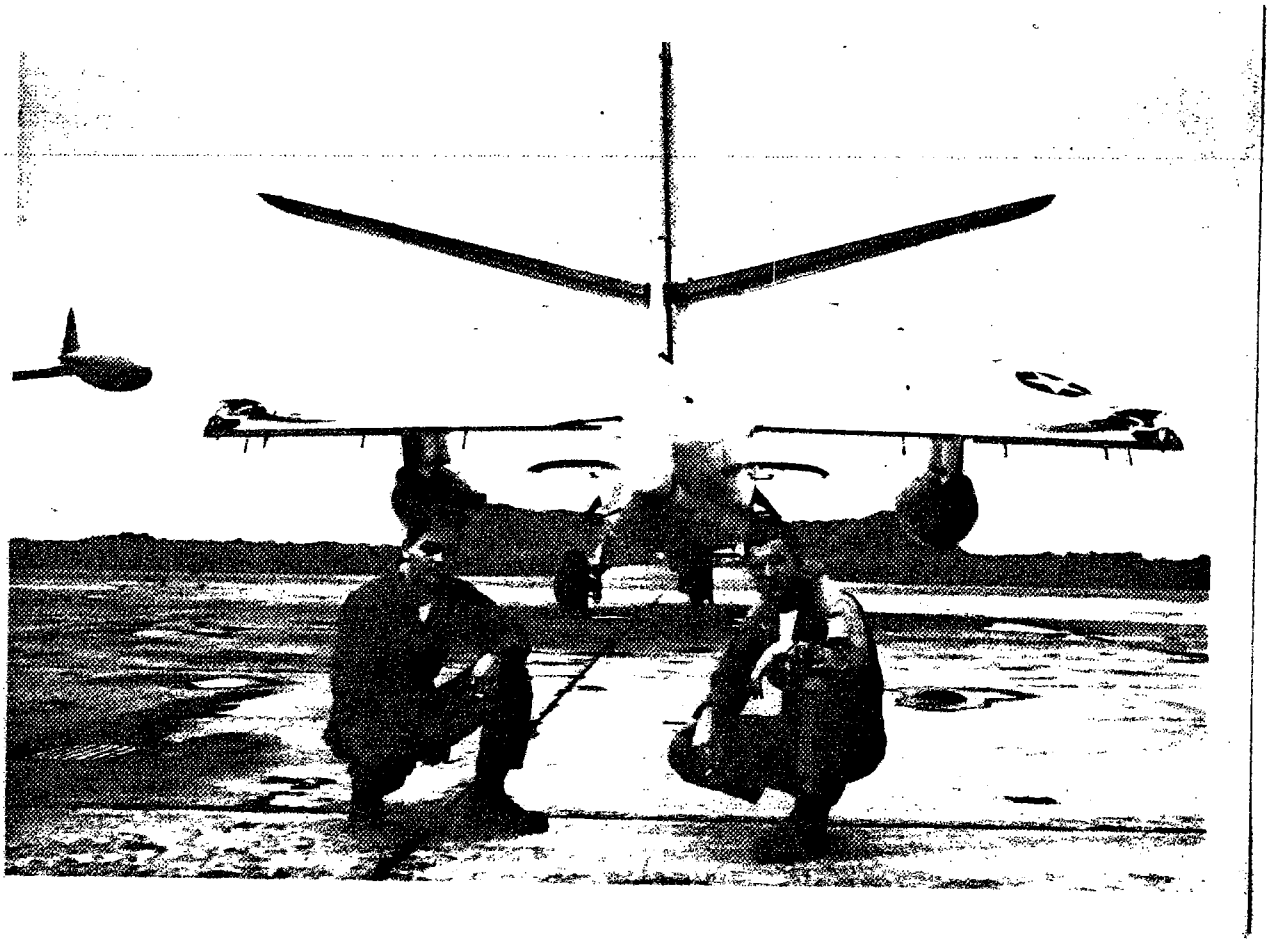
During the Vietnam Conflict, CDR Carment was followed as the Commanding Officer of VQ-1 by CDR M.E. Klein (November 1965-November 1966), CDR R.F. Dreesen (November 1966-December 1967), and CAPT R.M. DeLorenzi (December 1967-February 1970).

In this era, VQ-1 acquired additional aircraft capabilities. In November of 1968, a TA-3B was acquired for training and logistics purposes. Shortly afterwards, on March 17 and 21 June 1969,

5. LT John Dzema (front row center) as a student at the Airborne ELINT School, NAS Glynco, Georgia in 1966. LT Dzema was one of the 31 killed when the VQ-1 EC-121M was shot down by North Korea on 14 April 1969. Also shown in the photo, front row left, is LT Paul Hendricks who assumed the EW Department Head job in VQ-2 when LCDR Bruce Ford was killed in an EA-3B accident on 4 June 1968. ENS Don East, an instructor at the ELINT School, is shown at top right. LT Bob Edgerton is shown at top left. He also served as VQ-2 EW Department Head in the mid-1970s.



24. A VQ-1 EA-3B SKYWARRIOR at DaNang, RVN during the late 1960s. At left is MCPO Bill Dickson, USN (Ret.), with an unidentified VQ-1 crewman.



two EP-3B aircraft were delivered to VQ-1 to supplement the aging EC-121M. The EP-3Bs were converted to an electronic reconnaissance capability from P-3A Maritime Patrol "ORION" airframes. These two EP-3B BATRACK airframes would serve as the "informal" prototypes for ten P-3As that would subsequently be modified into the EP-3E ARIES. Finally, the first of the EA-3B avionics updates, named SEAWING, was received in August 1969.

With the continuing increase in size of VQ-1 and the importance of the squadron's role in Southeast Asia, CAPT DeLorenzi was followed by another O-6 as the Commanding Officer, CAPT C.L. Chute. Shortly after CAPT Chute's assumption of command in February 1970, VQ-1 lost an EC-121M SUPER CONSTELLATION (BUNO 145927) in an accident. On 16 March the EC-121M crashed while landing at Danang, RVN, with the loss of 23 lives.[6:280] LCDR "J.D." Meyer, who would later command both VQ-1 and VQ-2, was the senior member of the investigation board for this accident. Those perishing in this crash were as follows: Lieutenant Commanders Harvey C.K. Aiua and Harry C. Martin, Lieutenants Robin A. Pearce and George L. Morningstar, Lieutenants (JG) James M. Masters, Jr., Charles E. Pressler and Jean P. Souzon, Chief Petty Officer William J. Risse, Petty Officers First Class Larry O. Marchbank, Arthur D. Simmons and Donald W. Wilson, Petty Officers Second Class Floyd E. Andrus III, Gregary J. Asbeck, William P. Bletsch, Guy T. Denton, Joseph S. Saukaitis, John S. Schaefer, Stuart J. Scruggs, and Barry M. Searby, Petty Officers Third Class John M. Birch, Thurle E. Case, Ben A. Hughes, and Ralph S. Purdum.

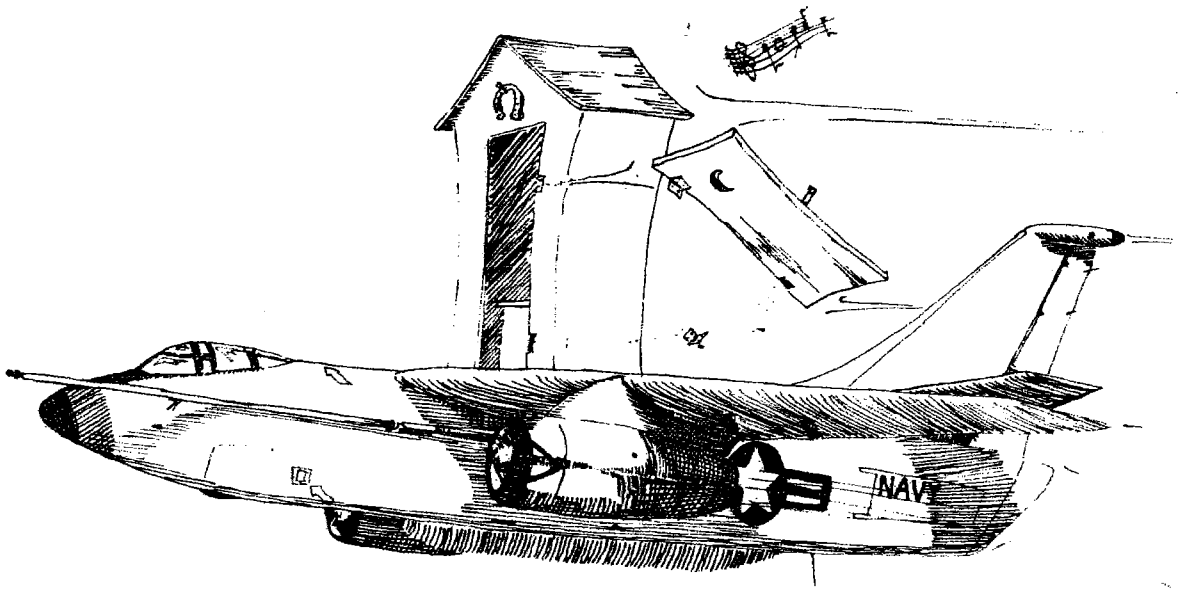
In recognition of superior actions while involved in airborne electronic reconnaissance operation during the 1967-1970 period, the squadron was awarded its third NUC and a Meritorious Unit Commendation (MUC).

Growth and a Change of Home Ports

In June 1971, VQ-1 changed homeports from Atsugi to Naval Air Station, Agana, Guam. In addition, the squadron was assigned the mission of weather reconnaissance and airborne photography when Airborne Early Warning Squadron One (VW-1) and Heavy Photographic Squadron Six One (VAP-61) were decommissioned. For a brief time, VQ-1 shouldered the mission of typhoon and general weather reconnaissance from the international date-line to the Malay Peninsula. The weather mission was discontinued at the end of the 1971 typhoon season, but the squadron retained the photographic reconnaissance mission and continued these advance worldwide photographic and cartographic mapping capabilities until the RA-3B was retired in July 1974.

A VQ-1 press release during this era provides some insight into the RA-3B photographic reconnaissance capability. This particular detachment, with LT Mike Clark as the Officer in Charge, operated for six weeks out of Eielson Air Force Base, Alaska conducting aerial photo and remote sensing missions for the U.S. Army Engineers Topographic Laboratory, the Office of Naval Research and the Department of the Interior. For these missions the VQ-1 detachment was reported as flying "The RA-3B photographic reconnaissance aircraft which is the most versatile photographic airborne platform in operational use today. Unlike most photographic aircraft, the

26/27. CAPT "J.D." Meyer's teenage son, Steve, drew these caricatures in 1969 as he envisioned the EA-3B SKYWARRIOR and the EC-121M SUPER CONSTELLATION. The EA-3B was fondly referred to as the "Whistling S . . . House" and the EC-121M as the "Peanut Butter Machine," which reportedly would not fly without a supply of peanut butter on board for crew "snacks."



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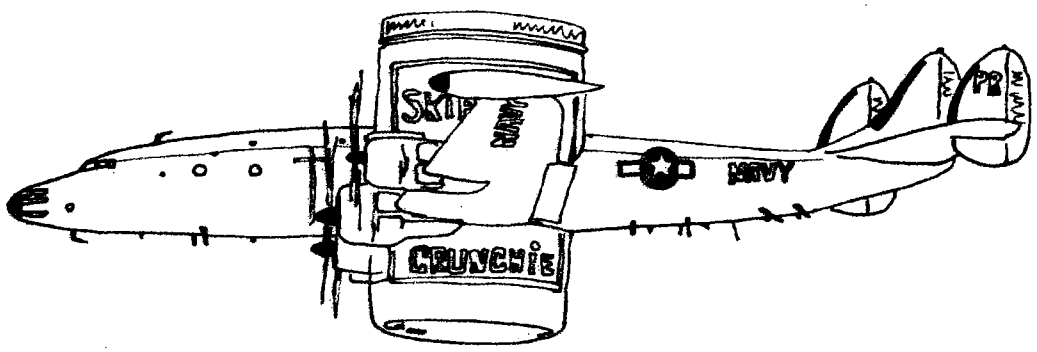
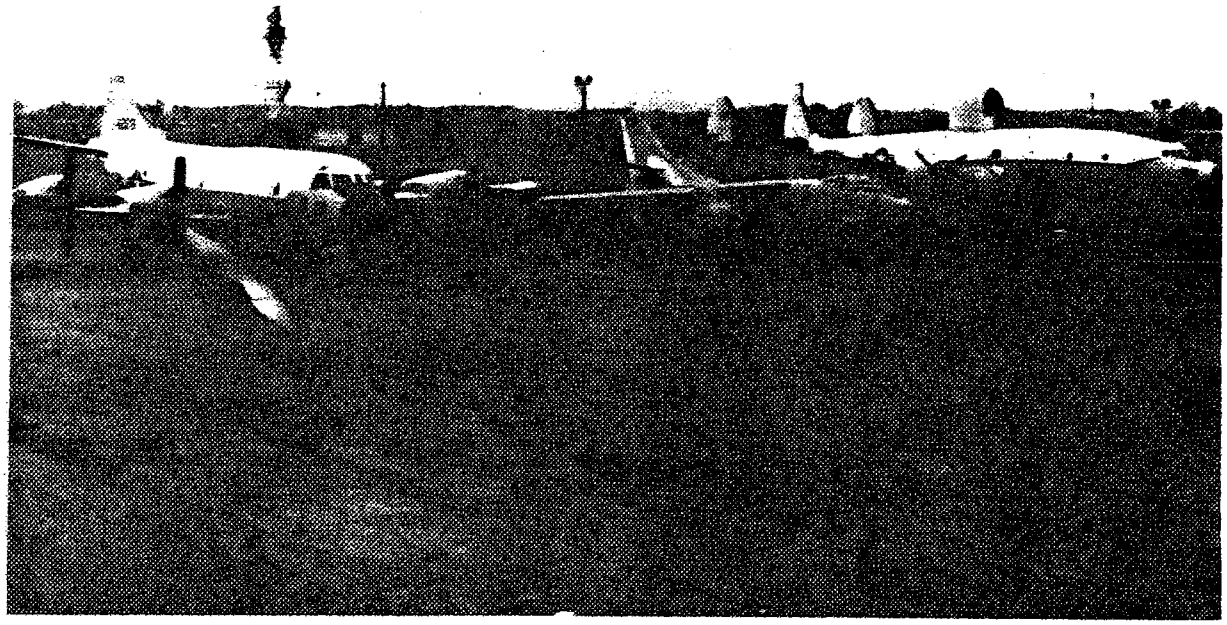


25. DaNang Air Base, RVN in the early 1970s. Three types of VQ-1 Electronic Reconnaissance Aircraft on the ramp. (Left to right) an EP-3B BATRACK, EA-3B SKYWARRIOR, and EC-121M SUPER CONSTELLATION.



21. VQ-1 EC-121M crew 32 at DaNang in 1969.

Front row (sitting), left to right: AT1 Johnny Johnson, (unidentified), (unidentified), (unidentified), AE2 "MAC," AT1 "Stub" Davis, AT1 "Sweet George" Phillips, AT2 "Timmy" Akin, (unidentified), AD1 "Dickie" Flake.

Back row (standing), left to right: ATCS "Scole" Haliden, LTJG "Buzzard" Stare, (unidentified), LT "Major" Helms, AT3 "Country" Carter, LT "Soupy" Campbell, (unidentified), LTJG John Draper, "Uncle Mac," (unidentified), (unidentified), AD2 Williams, flight engineer Feeney.

RA-3B is not limited to any set photographic configuration. Twelve camera mounts, sixteen camera ports, thirty-three camera positions, a bomb bay for flash bombs, laser attachments, flash cartridges, electronic flash, an excellent radar and associated photographic recorders permit almost unlimited latitude in mission planning." The press release goes on to say "The RA-3B and its three-man crew have a great advantage over other photo reconnaissance units" according to photo-navigator LTJG Chuck Fedor, "because we have the internal capability of changing cameras, lenses, filters or film magazines while airborne. It's our third crewman, ADJ3 Bruce Chambers, the photo-technician, that handles these operations and on occasions has even performed inflight repairs on faulty cameras." The government agencies were well pleased with the effort put forth by the men of the VQ-1 Alaskan Detachment as illustrated in a letter of appreciation from the Chief of Naval Research. The letter cited VQ-1 "for aerial photographic support along the north slope and the Barrow and Mount Hayes Quadrangle. The products of this endeavor will be of significant value for our scientific research in this area."[7]

Continued O-6 Commanders and a New Airframe

CAPT Joe Akins relieved CAPT Chute as the Commanding Officer of VQ-1 in July of 1971 to continue a series of O-6 Commanding Officers that would prevail until December of 1982.

The Airborne Electronic Reconnaissance Community was about to receive an improved aircraft capability in the form of the EP-3E ARIES aircraft. Design of the P-3 ORION began in the late 1950s to provide a replacement for the widely used P2V NEPTUNE. The

Lockheed Company won the contract and converted the commercial ELECTRA turboprop aircraft into the U.S. Navy P3V. The name ORION was adopted in late 1960 and the P3V designation changed to P-3 in 1962. The P-3A began arriving in the operational Maritime Patrol squadrons in the summer of 1962. Ten of these older P-3As were converted to EP-3E configuration for VQ-1 and VQ-2 in the early 1970s as replacement for the EC-121M in the electronic reconnaissance role. The EP-3E carried a special radar, radomes in long fairings above and below the central fuselage, and an additional ventral radome forward of the wings. The EP-3E all-weather, land-based electronic reconnaissance aircraft is powered by four turboprop engines, has a maximum speed of 350 knots and a service ceiling of 28,500 feet. With its twenty-eight man crew and a 142,000 pound maximum take-off weight, the EP-3E has a maximum endurance of twelve hours. VQ-1 received its initial EP-3E in September 1974, and after the delivery of the fourth AIRES in the fall of 1976, the EC-121M airframe was retired. The added capabilities of the EP-3E ARIES contributed significantly to the squadron winning another MUC award for the period 1 April 1972-27 January 1973.

The Loss of Another Aircraft

CAPT Akins' command tour also saw the loss of aircraft when an EA-3B SKYWARRIOR crashed at sea in 1973. Fortunately, in this case there was no loss of life. The EA-3B, with five crewmen on board, was on an overwater navigational training flight from Guam to the Philippines. At some point enroute, a combination of navigation equipment malfunctions and human error resulted in

total disorientation. Unable to locate land, the crew was forced to bail out at the aircraft fuel exhaustion point. The entire crew was picked up by a helicopter from the Japanese Maritime Self-Defense Force Destroyer HARUNA.

A Move Back to Open-Ocean Fleet Support

At the end of the Vietnam Conflict in 1973, the VQ-1 mission began a move back to providing open-ocean tactical electronic support to the Seventh Fleet carrier battle groups. The first regular Indian Ocean cruise made by VQ-1 EA-3B "WHALES" occurred in early 1974 with a two-aircraft detachment aboard the USS KITTY HAWK. By this time, the leadership of VQ-1 had passed from CAPT Akins to CAPT T.W. Connolly. Soon after the KITTY HAWK deployment, a single EA-3B aircraft detachment embarked the USS MIDWAY for a three-year cruise throughout the WESTPAC area, deploying to the Indian Ocean once during that period. This signaled the start of a regular VQ-1 EA-3B presence on Seventh Fleet carriers.

CAPT W.V. "Pooch" Patterson assumed command of VQ-1 on 16 August 1976. At that time, the command had sixteen aircraft (EP-3E, EP-3B, EA-3B, TA-3B and a P-3A for flight training and logistics), along with over 700 personnel assigned.

Two Individuals Make VQ History

In November 1978, CAPT D.W. Hagen assumed command of the squadron. CAPT Hagen made VQ history upon his assumption of VQ-1 command by being the first person to command both VQ-1 and VQ-2. Additionally, CAPT Hagen was the first Naval Flight Officer to command VQ-1; all those preceding him had been Navy pilots.

In October 1979, CAPT "J.D." Meyer relieved CAPT Hagen as VQ-1's commanding officer. CAPT Meyer was the second and last person to date who has commanded both VQ-1 and VQ-2. Shortly after CAPT Meyer's assumption of command, the Iranian Crisis of 1979 resulted in an increased U.S. Presence in the Indian Ocean. Accordingly, the U.S. Navy was committed to maintaining at least one carrier battle group in the vicinity of the northern Arabian Sea. Both VQ-1 and VQ-2 shared this commitment with CV-embarked EA-3B and Diego Garcia EP-3E detachments to provide the crucial electronic reconnaissance services to the area U.S. commanders. VQ-1 was awarded a fourth NUC for these Indian Ocean contingency operations over the period 23 January 1980 until 1 May 1980. Also, participating aircrews and ground support personnel from both VQ-1 and VQ-2 were awarded the Navy Expeditionary Medal.

The Loss of an EA-3B

CAPT Jim Brightman relieved CAPT "J.D." Meyer as Commanding Officer of VQ-1 in August 1981. A year later, on 4 August 1982, the squadron suffered its first fatal aircraft accident in over a decade and its first EA-3B loss while operating from an aircraft carrier. The EA-3B, piloted by LT Frank N. Kercher, disappeared on a routine mission in the Indian Ocean near Diego Garcia, while operating from the carrier USS RANGER. The subsequent rescue and debrief of a single surviving crewmember, Petty Officer Second Class Robert Lee Huff, indicated the SKYWARRIOR may have broken up in flight after control failure. The remaining crewmen were LT Michael F. Brown, LT David A. Pies, Petty Officers William B. Snider and Brian S. Watson and airman Terry D. Smith. They were

presumed killed or lost at sea. A subsequent JAG investigation blamed the accident on a zero-gravity maneuver.[10]

A Return to the O-5 Skipper

After CAPT J.M. Brightman held command of VQ-1 from August 1981 until December 1982, the squadron reverted to an O-5 Commanding Officer for the first time since 1967. CDR Ivan E. Hughes resumed this O-5 series, and it holds true until today.

During CDR Hughes tour as Commanding Officer, Arabian Sea contingency operations, the KAL 007 airliner shootdown incident and the large-scale FLEETEX-83 exercise occupied center stage for the squadron. VQ-1 received the Meritorious Unit Commendation for the period Jaunary 1983 until December 1983 for superior airborne reconnaissance operations, and the CNO Safety Award for 1983 during CDR Hughes' tour.

The Death of a Commanding Officer

CDR John T. Mitchell assumed command of VQ-1 in March 1984. Ten months later, on 23 January 1985, he and eight other VQ-1 personnel were killed when the squadron VA-3B (VIP aircraft) was lost at sea while enroute to Guam from Atsugi, Japan. CDR Mitchell was piloting the VA-3B when it disappeared from a radar tracking screen about 125 nautical miles north of Guam. The subsequent JAG investigation, completed in September 1985, reported the SKYWARRIOR took off from Atsugi at about 10:00 a.m. Guam time.[9] Twenty minutes later, the crew contacted the VQ-1 Detachment at Atsugi and reported an air turbine motor (ATM) was malfunctioning. The VA-3B continued on its course and stayed in radio contact with Navy officials, first on Iwo Jima, and then on Guam. At 12:30 p.m. Guam

time, the navigator reported the starboard ATM was shut down and the left one was heating up. Seventeen minutes later, the SKY-WARRIOR aircrew requested permission to descend from 33,000 to 20,000 feet. Four minutes later at 12:51 radar contact was lost with the stricken aircraft.[9]

The subsequent investigation reported that sometime shortly after 12:48, a malfunction occurred which precipatated a rapid acceleration in the rate of descent. The report went on to say the aircraft must have gone down in a very steep descent and hit the water with great force. After impact, the majority of the aircraft probably plummeted below the surface of the water and sank into the very deep water of the Guam Area.[9] An endorsement to the accident investigation by VADM James E. Service, Commander Naval Air Pacific, summed up by saying: "Although the exact cause of the mishap cannot be determined from available information, dual ATM failure with resultant flight control problems is the conclusion best supported by the circumstantial evidence."[9] The ATMs provide power for the SKYWARRIOR hydraulic pumps. In turn, the hydraulic pumps supply the hydraulic pressure to power the flight control surfaces and other items.

A massive air and sea search and rescue effort failed to locate any trace of the VA-3B or its crew/passengers. Presumed dead were CDR John T. Mitchell, LCDR Robert E. Delateur, LT Marshall M. Laird, LT Carlos A. Miller, LTJG Richard A. Thomson, Senior Chief John T. Clark, Chief David K. Nichols, Petty Officer Thomas J. Jorgensen and Petty Officer Thomas J. Degryse.[9] Thus,

CDR John T. Mitchell became the first incumbent VQ-1 Commanding Officer to be killed in the line of duty.

But Squadron Operations Must Go ON

Commander R.E. "Bob" Claytor, the Executive Officer at the time of CDR Mitchell's tragic death, became the new Commanding Officer and led the squadron through the next sixteen months until relieved in May 1986 by CDR Earl Smith. The current Squadron Executive Officer is CDR Marcus Williams.

PART IV

THE EUROPEAN THEATER AND VQ-2

The Beginnings

Following World War Two, VP-26 was based at Naval Air Station, Port Lyautey, Morocco from 1947 until the early 1950s. At that time, VP-26 flew the Consolidated PB4Y-2 PRIVATEER. By 1952, VP-26 had relocated to Patuxent River, Maryland and transitioned to the P-2V NEPTUNE aircraft. While operating from Port Lyautey during the 1947-1952 period, apparently some of the PRIVATEER aircraft were specially configured for the electronic reconnaissance mission, and were thus the earliest traceable origins of VQ-2. It is assumed that the primary operating area for the electronic reconnaissance versions of the VP-26 PB4Y-2 aircraft was the Baltic Sea, with tasking against the Soviet Navy operating there. Operating as detachments, the VP-26 "electronic" PRIVATEERS probably operated out of bases in western Europe, primarily Germany. It was during one of these Baltic Sea missions that we find the first in a long series of air incidents involving U.S. reconnaissance aircraft and Sino-Soviet fighters during the Cold War.[2:135]

The First Loss

On 8 April 1950, a VP-26 PRIVATEER (BUNO 59645) and its ten-man crew was lost in the Western Baltic Sea, apparently after being attacked by Soviet aircraft approximately 80 nm southeast of Gotland Island. Earlier in April, the PRIVATEER had deployed from its base at Port Lyautey to the U.S. Air Force Base at Weisbaden, Germany. Leaving one crewman, Aviation Electronic Technician

Stephen Zakian of La Grande, Oregon on the ground, the PRIVATEER took off at 1031 on Saturday 8 April on a classified mission.[16] At 1330 the PRIVATEER reported it was flying over Bremerhaven, Germany and at 1440 made its last radio report. At 2330 the VP-26 squadron headquarters at Port Lyautey received a dispatch from the Commanding Officer of the U.S. Naval Base in Bremerhaven, Germany stating PB4Y-2 bureau number 59645 was declared overdue by USAF Flight Service in Frankfurt, Germany.[16] According to a later Soviet report, the Navy aircraft was sighted at 1739 on 8 April over Leyaya, Soviet Latvia and mistakenly identified as a B-29 bomber. According to the Soviet report, it was then intercepted and ordered to land; where upon it reportedly exchanged fire with the Russian fighters and headed out to sea. The credibility of the Soviet report was seriously weakened by the fact that the PRIVATEER's only armament was a 45 caliber automatic pistol carried by one of the officer crewmen.[2:136]

According to subsequently declassified VP-26 squadron reports, by 0400 on 9 April three VP-26 PB4Y-2 aircraft were ordered from Port Lyautey to Weisbaden, Germany to conduct a search for BUNO 59645.[16] PRIVATEERS BUNO 59771, piloted by Lieutenant Rice, 59808 piloted by Lieutenant (JG) Linker, and 59816 piloted by Lieutenant Cobb, with the squadron executive officer on board were launched in quick order.[16] After a short stay in Wiesbaden, the 3 PRIVATEERS moved on to Copenhagen, Denmark and initiated search operations by 10 April. Before the search for BUNO 59645 concluded, a fourth VP-26 PRIVATEER and approximately 25 USAF aircraft would scour the Baltic for ten days. According to the

squadron reports, a life raft, identified as VP-26 property, was picked up by a Swedish fishing vessel a few days after the search operations were suspended.[16] Another source reported the British freighter BEECHLAND pulled an empty aircraft life raft from the Baltic Sea forty-five miles southeast of Stockholm. The life raft was positively identified as having been issued to a PB4Y-2 aircraft by the serial and contact numbers.[2:137] After the incident, a stiff note of protest, and a rebuttal of the Soviet report, was sent to the Russian Government by the U.S. State Department.

Numerous Soviet naval and air contacts were reported by the U.S. search aircraft, and in the VP-26 squadron report, at least two PB4Y-2 APS-15 radar operators reported noise modulated radar jamming. The jamming obliterated the APS-15 scopes in up to a 30° sector and for up to a 3 hour period. The reports varied as to the origin of the jamming, but it was believed to originate from a Soviet submarine or ashore from the vicinity of a Soviet base in Latvia.[16]

No trace of the ten-man crew was ever found and they were eventually presumed dead. The crewmembers were: LT John Henry Fette, USNR; LT Howard William Skeschaf, USN; LTJG Robert Durard Reynolds, USN; ENS Tommy Lee Burgess, USN; AD1 Joe Henry Danens, Jr., USN; AD1 Jack William Thomas, USN; AT1 Frank Lloyd Beckman, USN; CT3 Edward Joseph Purcell, USN; AL3 Joseph Jay Bourassa, USN; and AT3 Joseph Norris Rinnier, Jr., USN.[16] Years later, an escapee from East Germany claimed to have served time in the infamous Soviet prison coal mine of Vorkuta, above the Arctic Circle. He claimed that one of his fellow prisioners had been a

U.S. Navy officer member of the lost PRIVATEER. This was never confirmed.[2:137]

The Beginnings of a New Unit

Although the evidence is sparse, it appears that approximately coincident with, or just prior to VP-26's departure from Port Lyautey in 1952, a new unit was formed there, dedicated strictly to the mission of airborne electronic reconnaissance for the European theater. This new organization, designated NAF Patrol Unit, was manned by approximately 70 personnel and was equipped with three P4M-1Q mission aircraft, plus a stripped P2V NEPTUNE pilot trainer.[15] The OIC of the unit was a CDR Larson, with LCDR Peeler as the assistant OIC. An interview with a former P4M-1Q tail gunner, Freeman Dias of Bristol, RI, indicates CDR R.R. Sparks, who later served as a Commanding Officer of VQ-2, relieved CDR Larson as the OIC in approximately mid-1953.[15]

Mr. Dias recalled the P4M-1Q has some protection against the ever-present threat of communist shootdown in the form of 20mm nose and tail guns along with a 50 cal. upper fuselage turret. Even with this protection, there were nevertheless instances of hostile action against the reconnaissance aircraft. For instance, sketchy information shows a P4M-1Q shot up badly during a mission in late 1951 or early 1952. A LT Huddleston was the P4M-1Q pilot during the attempted shootdown incident, where at least one crewman was killed.[15]

The "Dedicated" Unit Goes Through Changes

By the summer of 1955, NAF Patrol Unit was redesignated as Detachment ABLE of Airborne Early Warning Squadron Two (VW-1). It

is not clear exactly when CDR R.R. Sparks was relieved as OIC of the detachment. However, it is estimated that CDR M.L. Kalin relieved Sparks as OIC in mid-1954, and went on to become the first Commanding Officer when the detachment was designated as a squadron in 1955.

A "Dedicated" Squadron is Finally Formed for the European Theater

Growing out of VW-2 Detachment ABLE resources, the airborne electronic reconnaissance assets of that unit were commissioned as Electronic Countermeasures Squadron Two (ECMRON 2) on 1 September 1955. ECMRON-2, assigned the alfa-numeric designation VQ-2, was homeported at Naval Air Station, Port Lyautey, Morocco, and had a total complement of 24 officers and 78 enlisted men. The first Commanding Officer was Commander Morris L. Kalin, USN.

The squadron initially used the P4M-1Q and a version of the P2V NEPTUNE as mission aircraft. Two models of the P-2V appear in available records, the P2V-3 and the P2V-5F. VQ-2 used its single P2V-3 NEPTUNE for pilot training and logistics, since it was not configured for electronic reconnaissance. The squadron employed its three specially configured P2V-5F NEPTUNEs, along with the P4M-1Qs, for the electronic reconnaissance mission. These three P2V-5F aircraft would serve the squadron faithfully until the spring of 1960 when they began a phase out period.

The Arrival of New Assets

The newer and faster A3D-1Q SKYWARRIOR aircraft began arriving at VQ-2 in the 1956 time frame. In July 1956, two VQ-2 pilots began familiarization training at Patuxent River for the A3D-1Q. In September of that year, they ferried the first two A3D-1Qs to

Port Lyautey. Later, on 6 December, the A3D-1Q flew its first operational mission with Skipper Kalin as the pilot.[8] Squadron records of 1 June 1957 show the aircraft inventory as being a single P2V-3, 2 P2V-5F, 3 P4M-1Q, 2 A3D-1Q and one A3D-1.

And Then There Were Accidents

Several major aircraft accidents occurred during VQ-2 operations while based at Port Lyautey, two of which resulted in loss of life. Table V provides a brief summary of these and other accidents occurring in VQ squadrons. On 6 January 1958, a VQ-2 P4M-1Q crashed at NAS Oceana, Virginia. Four crewmem were killed, two received major injuries, and the aircraft was destroyed. Later, on 16 October 1958, a VQ-2 A3D-1Q crashed in the landing pattern at night while operating out of Incirlik AFB near Adana, Turkey. All four crewmem perished in the mishap.

The Squadron Continues to Grow

After the initial Commanding Officer, Commander M.L. Kalin, the next C.O. of VQ-2 while at Port Lyautey was CDR R.R. Sparks, USN. CDR Sparks served as the squadron C.O. from 1 July 1957 until 6 October 1958. The squadron now had a total personnel complement of 48 officers and 281 enlisted. Near the end of CDR Sparks' tenure, an interesting article appeared in the EL ROTANDO, the Naval Base Rota newspaper on 26 September 1958: "One of the U.S. Navy's hottest attack bombers, a twin-jet Douglas A3D "SKYWARRIOR," roared down the runway of the Spanish-American Naval complex here yesterday morning and was logged as the first jet aircraft to make an operational landing at the growing base. The powerful, near supersonic bomber was piloted here from her home

base at Port Lyautey, Morocco, by CDR Robert R. Sparks, USN. The co-pilot was CDR Clarendon Sigley, USN." Although not stated in the EL ROTANDO article, the visit to Rota by the VQ-2 CO and XO was probably in conjunction to the upcoming relocation of the squadron from Port Lyautey to Rota.

CDR Sparks was relieved as Commanding Officer of VQ-2 by CDR Sigley in October 1958. After his selection to Captain in later years, Robert Sparks was killed in a helicopter accident in Iceland.

The Move to Rota and New Aircraft Platforms

CDR C.H. Sigley was at the VQ-2 helm during its move to Rota during late 1958 through the first few days of 1959. The move was officially completed on 14 January 1959. During the squadron's relocation to Rota, Spain, 5 A3D-2Q aircraft were received to replace the less capable A3D-1Qs. On 14 January 1960, with CDR P.D. Halpin at the helm, VQ-2 was officially transferred to its current homeport of Naval Station, Rota, Spain.[8] Earlier, on 1 January 1960, the official name of the squadron was also changed to Fleet Air Reconnaissance Squadron Two (VQ-2). Just two days after the move, on 16 January 1960 a VQ-2 P4M-1Q crashed during daylight hours while operating out of Incirilik AFB. The aircraft was destroyed and all sixteen crewmen killed.

But operations must go on, and on 26 February 1960, the squadron received the first two Lockheed WV-2Q SUPER CONSTELLATION aircraft. VQ-2 had an aircraft inventory on 31 March 1960 of 5 A3D-2Q, 2 WV-2Q, 3 P2V-5F and 2 P4M-1Q. The P2V-5F and P4M-1Q aircraft were soon to be phased out. Meanwhile the newer WV-2Q and A3D-2Q aircraft would continue to arrive at the newly located

and designated squadron. The WV-2Q would later be designated the EC-121M (SUPER CONSTELLATION) and the A3D-2Q redesignated the EA-3B (SKYWARRIOR), regardless of what designation they bore, these "WILLIE VICTORS or CONNIES" and "SKYWARRIORS or WHALES" would serve the VQ community for many years to come.

The First EC-121M Loss

VQ-2, now under the command of CDR A.G. Elder, soon settled down at its new location at Rota, Spain, and quickly adapted to its replacement EA-3B and EC-121M airframes. Meanwhile, the squadron continued its business of airborne electronic reconnaissance in support of the U.S. Sixth Fleet and national intelligence collection programs.

While under the command of CDR H.E. Fitzwater, on 22 May 1962 tragedy again struck VQ-2 when an EC-121M, operating out of Furstenfeldbruk, West Germany was lost in a mishap with its crew of twenty-six. For unexplained reasons, the tail section of the "CONNIE" separated in flight, resulting in an uncontrollable crash of the aircraft. As a petty officer second class, the author, then stationed with the Naval Security Group Activity Bremerhaven, Germany, was detailed to the crash scene to assist in the recovery of classified material. As was related to the author, in a bizarre incident one of the EC121M crewmen happened to be in the aircraft's head, which was all the way aft, when the tail section broke off at the main cargo door point. The intact tail section, with its single passenger, was reported by several witnesses to have "flown" in a wide arc after the breakup and made a rather controlled "landing" in a large, and freshly-plowed farm field.

The crewman, apparently unhurt up to this point, was then thrown from the tail section directly into one of two or three trees left standing as shade in the large field, where he was killed instantly due to a broken neck.

The Series of Peacetime Crises Begins

In October 1962, VQ-2 deployed an unspecified number of aircraft and men to operate from Key West, Florida in response to the Cuban Missile Crisis. The electronic intelligence collected by VQ-2 was used to integrate the photography acquired by the U-2, USAF F-101 and other platforms, into a coherent set of intelligence information so that this major superpower crisis could be resolved.

An accepted fact pertaining to the nature of an international crisis situation is the political and military decision makers need for a greater quantity of near real-time intelligence information. This important factor lay at the heart of VQ operations in its early days, as it continues to do so today. Following the Cuban Missile Crisis in 1962 was the Cyprus Crisis of 1964, when CDR R.M. Davis was in command of the squadron. Afterwards, a series of eastern Mediterranean crises provided ample opportunities for VQ-2 to collect and provide timely intelligence information to top-level decision makers.

During the decade of the sixties, VQ-2 operations took on a more direct tactical fleet support role. This was primarily because a rapidly growing and modernizing Soviet Navy established a continuous presence in the Mediterranean Sea, concurrent with the 1964 Cyprus Crisis. In the years to come, VQ-2 would see a steady

increase in the number of its electronic reconnaissance missions tasked against the Soviet Navy in the Mediterranean Sea and other oceanic areas.

Partly because of the growth of the Soviet Navy as a new factor in the series of crises in the southern European theater, the first VQ-2 EA-3B detachment went aboard a Mediterranean-based carrier in January of 1965, under Skipper CDR C.A. Kiser. Since this initial "WHALE" detachment went aboard the SARATOGA, VQ-2 has provided almost continuous electronic reconnaissance support to the Mediterranean deployed carriers. The first loss of VQ-2 EA-3B aircraft while embarked on a Mediterranean carrier came on 3 November 1966 under the command of CDR J.H. McConnell. The USS INDEPENDENCE EA-3B, piloted by LCDR "Monty" Lillebow, impacted the water aft of the carrier and was lost at sea with its crew of six.

The Vietnam Conflict

It was not only in routine recce operations and in peacetime crisis situations that VQ-2 saw action. There was also a war to be fought. The conflict had heated up in Southeast Asia, and by the autumn of 1965, the U.S. Navy required a degree of electronic recce capacity beyond that available in VQ-1. Consequently, beginning under the command tenures of CDRs A.D. Burkett and E.V. Laney, detachments of VQ-2 EA-3B and EC-121M aircraft were provided to the Pacific theater to conduct electronic reconnaissance in support of U.S. Navy combat operation in Vietnam. These VQ-2 aircraft initially operated from Cubi Point, the Gulf of Tonkin carriers, and Da Nang. After detachment facilities were established at Da Nang, VQ-2 EA-3Bs operated almost exclusively from

that site along with VQ-1 aircraft. These VQ-2 aircraft provided surface-to-air missile (SAM) and MIG threat warning services, which significantly contributed to the survivability of Navy strike aircraft. These VQ-2 assets also provided signals intelligence (SIGINT) collection for Electronic Order of Battle (EOB) updating and combat contingency planning.

VQ-2 lost one aircraft and a portion of a crew in two separate incidents in these Southeast Asia operations, which spanned the 1965-1968 period. In the summer of 1968, an enemy rocket attack against the base at Danang resulted in the partial destruction of a VQ-2 EA-3B (BUNO 144848) in its revettement. Although a VQ-1 EC-121M and EA-3B were also damaged in this attack, there were no personnel injuries. The VQ-2 EA-3B, although heavily damaged in the nose/cockpit section, was subsequently placed aboard a MSTS carrier to be transported to CONUS for repairs. On 14 December 1968, the EA-3B broke loose from its deck tiedowns during rough weather in Tokyo Bay and was lost overboard. This incident signalled the beginning of the end of the VQ-2 operations in Southeast Asia as things were now heating up in the Med.

In an earlier 1966 incident, a VQ-2 EA-3B in transit from Cubi Point to Da Nang, stalled out in probable icing conditions at 45,000 feet and entered into a violent spin. Although the EA-3B was recovered at low altitude and landed safely by the pilot LCDR Dave Caswell, the four aft crewmen had already bailed out and were presumed drowned in the heavy seas.

A Successful EA-3B Bailout

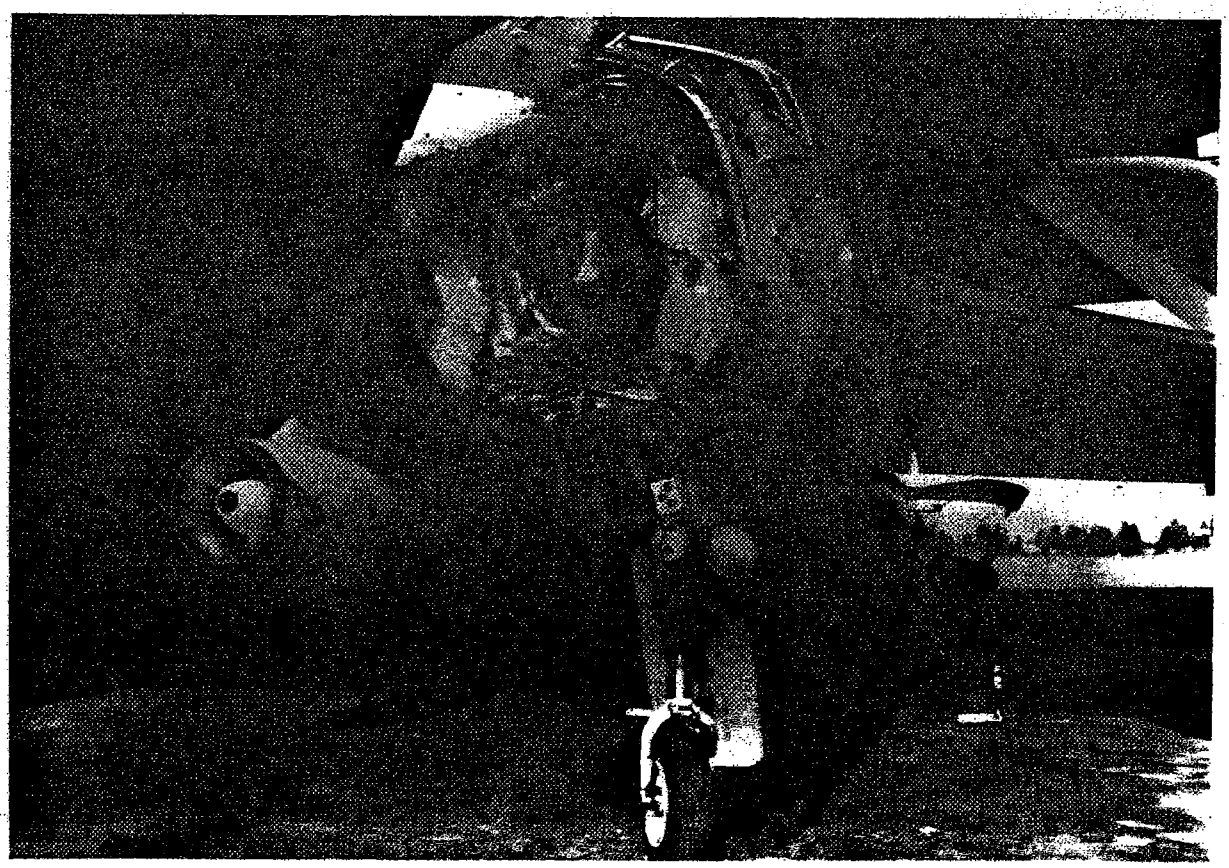
Meanwhile, back in Europe, VQ-2 continued airborne electronic reconnaissance operations at a high pace in the crisis-prone Mediterranean theater. During a series of missions from Ramstein Air Force Base, Germany in the spring of 1968, another EA-3B bailout situation occurred. The EA-3B, piloted by LCDR "Stu" Corey, was entering the Ramstein landing pattern near the town of Landstuhl on 16 March, when an inboard slat malfunction occurred at approximately 1200 feet altitude. With the EA-3B apparently entering a stall in a nose-up port turn, the pilot signalled for crew bail out. (Remember, the EA-3B has no ejection seats!). The "back end" crew, consisting of LTJG "Dick" McBurnett (EVAL), CPO "Obie" O'Brien (EWOP), CPO Bob Johnson (EWOP), and PO1 Dave Barlag (EWOP), quickly "hit the silk" as they has practiced numerous times in squadron ditch and bailout drills. Because of the low altitude bailout, the four men each had only one or two swings from their chutes before landing in a heavily wooded section near Landstuhl. Only PO1 Barlag landed on firm ground, while the other three men's chutes were caught in tall fir trees. CPO O'Brien was removed from his tree by the local German fire department while CPO Johnson managed to free himself, suffering minor injuries. Regrettably, LTJG Dick McBurnett was less fortunate. In trying to disentangle himself from the fir tree, his chute broke free, resulting in a fall of 50-70 feet and very severe back injuries. After over two hours, LTJG McBurnett was finally located and rescued by a USAF helicopter. Ironically, LTJG McBurnett's father was also injured a few kilometers from this accident site. He was hit by artillery fragments during the Battle of the Bulge in World

War Two.[14] Meanwhile, after the back end crew bailout, LCDR Corey was able to recover the EA-3B when the slat became operative, and successfully land it at Ramstein. LCDR Corey's skillful recovery of the EA-3B came only seconds before CPO Sweitzer (EWOP) and LTJG "Shep" Smith (Navigator) were to bail out. The author, who was standing the Squadron Duty Officer post in Rota at the time of the incident, can recall the initial telephone conversation with LTJG Smith after he arrived in the Ramstein Operations Building. As LTJG Smith was reporting the grim details of the bailout, the sound of heavy flight boots at a dead run over the tile floors of the Operations Building floor could be heard in the background. Fortunately, these sounds were made by PO1 Dave Barlag as he arrived, parachute and all, after hitchhiking a ride to base operations with a German civilian in a Volkswagen "BUG". He bought the good news of sighting the other three chutes on his way down.

The Loss of a Skipper

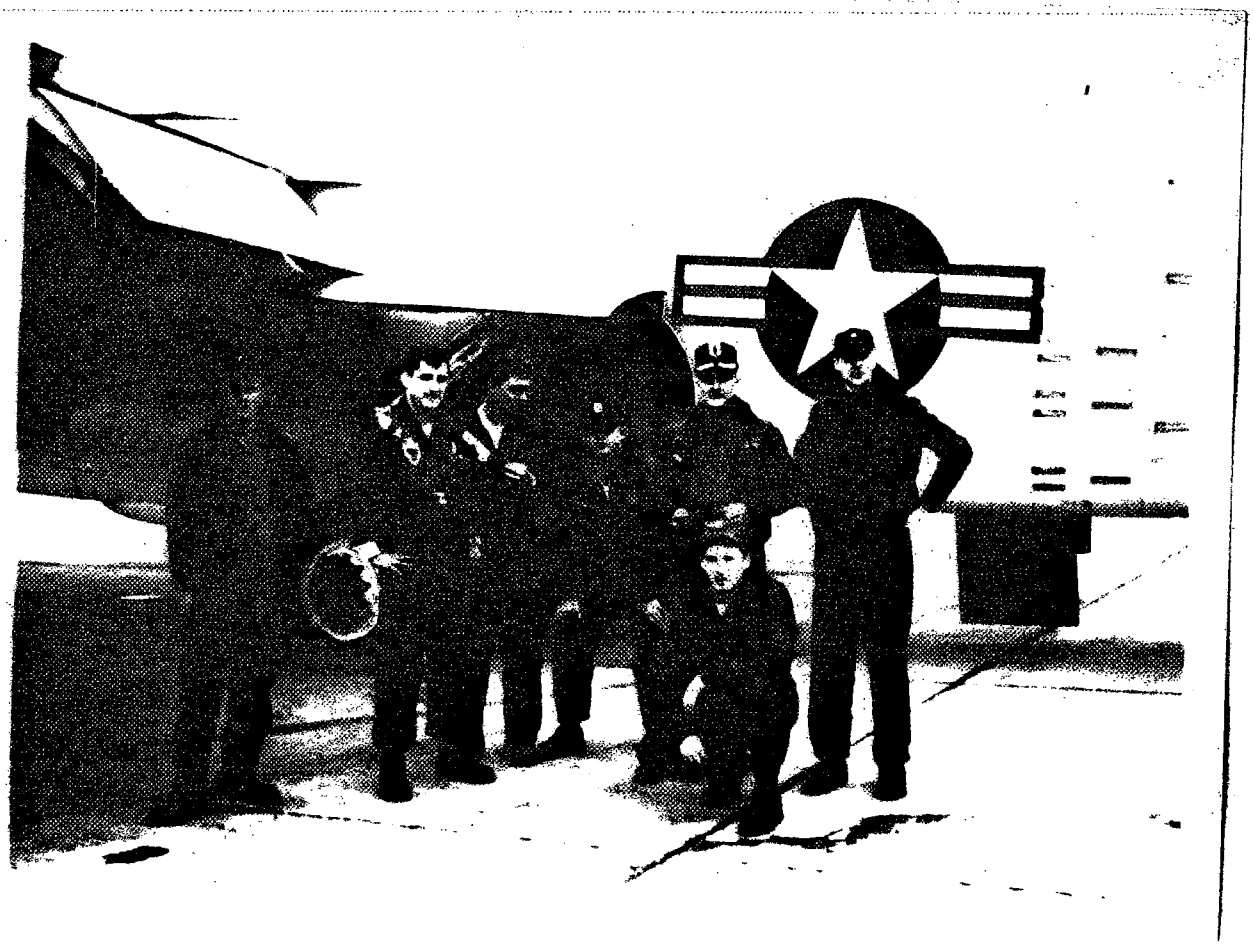
The decade of the sixties also saw several accidents, resulting in the loss of 56 additional lives. In a 4 June 1968 EA-3B accident, the new squadron Commanding Officer, CDR T.E. Daum was killed; along with his Electronic Warfare Department Head, LCDR Bruce Ford; the Special Security Officer, LCDR Jim Frazee; and the Squadron Navigation Officer, LCDR Charlie Best. Two enlisted Petty Officer crewmen, Jim Henderson and Jack Snowdy, miraculously survived, but were hospitalized for several months. CDR Ted Daum had been the CO of VQ-2 only thirty-three days at the time of his death. CDR Daum, his EWO and SSO were enroute a conference at the

11. VQ-2 EA-3B incident after launch from the USS INDEPENDENCE in September 1966. VQ-2 had 2 EA-3Bs on board at the time, operating in the Eastern Mediterranean. LCDRs Jack Taylor and Joel Graham were the EWACs at the time. After experiencing hydraulic pressure failure after a night catapult, this EA-3B diverted to Sigonella, Sicily when it encountered severe thunderstorms enroute, incurring some radome damage. After making emergency repairs at Sigonella, the EA-3B took off for Rota for further repairs. During climbout, the entire radome disintegrated, however, the crew was able to recover safely at Sigonella.

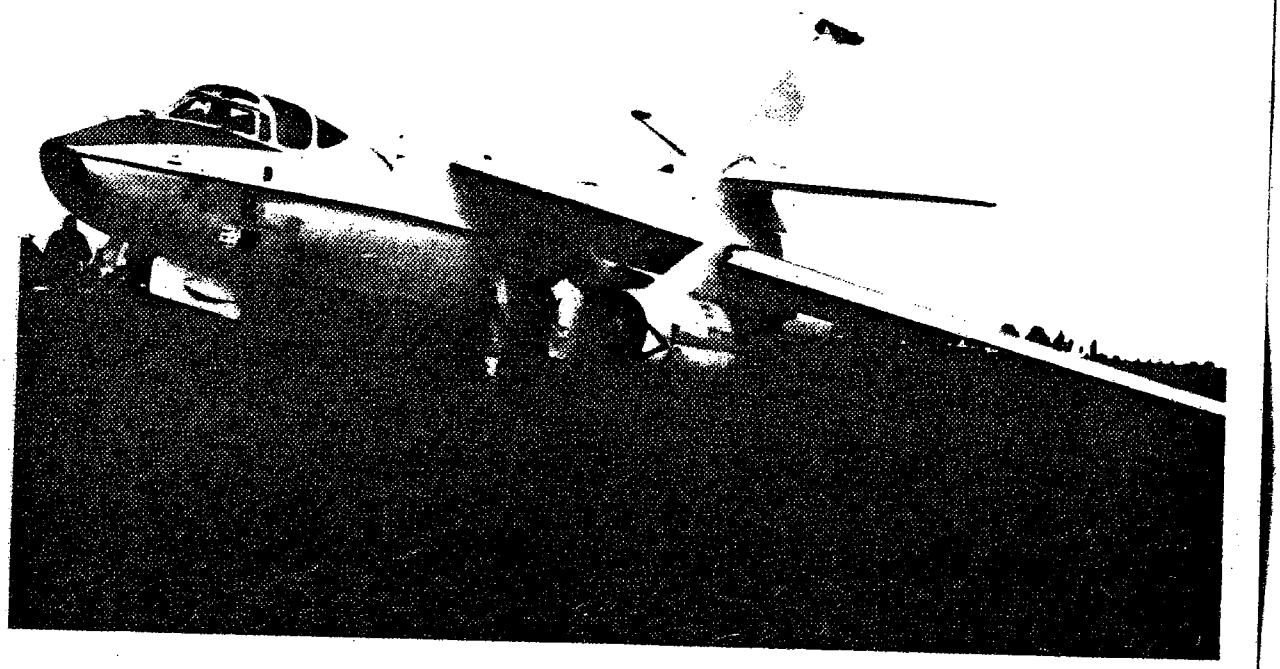


2. VQ-2 Skipper CDR Glen Hatch pins the Navy Achievement Medal on the author, LT Don East in 1970.

23. A VQ-2 EA-3B crew on their way to the "bird farm" in 1968. Shown left to right: AT1 Dave Barlag (later bailed out of a VQ-2 EA-3B in Germany), LTJG Tom Walls (who was shortly thereafter killed in an EA-3B carrier accident), AT2 Speck, LT Don East, CDR Glen Hatch (Squadron Executive Officer), (unidentified), (unidentified).



7. Some days things just don't go your way. Waterspouts in the path of the carrier forced several aircraft, including this VQ-2 EA-3B, to bingo into Sigonella, Sicily. The pilot, CDR "Matt" Moore, brought the WHALE in, despite the 50 knot crosswinds off Mount Etna. The Navigator LT "Shep" Smith, Eval LT Don East, and two enlisted crewmen all survived this "rough ride" off the runway.



28. A VQ-2 EA-3B SKYWARRIOR in Bodo, Norway during 1968. Shown with their Norwegian host officer are the NFOs of two EA-3B crews operating from that site. (left to right) LT Dick Moser, LT Larry McGlothlin, Norwegian host officer, LT Tom Fritz (C.O. of VQ-2 June 1980-June 1981), and LT Kelly. Obviously, crew cuts were still in style!

time of the crash. Apparently, the SKYWARRIOR lost an engine just after takeoff and slowly lost altitude until it impacted the ground in a sugar beet field approximately one mile east of the Rota airbase. The EA-3B's tail probably touched down first on the downslope of a small hill, which pitched the nose downward to begin a violent tumble. As the aircraft disintegrated, Petty Officers Henderson and Snowdy were thrown clear. Lieutenants "Gus" Littlefield and Tom Fritz were on their way to work at the squadron when they saw the aircraft go down. After parking their cars and making their way across the field on foot to the accident site, they initially found no signs of life. Shortly thereafter, a weak voice from a clump of grass asked: "Hey Gus, you got a cigarette?" It was then that Littlefield and Fritz found Petty Officer Henderson, and a few moments later, Petty Officer Snowdy, alive, but very badly injured.

CDRs R.W. Arn and H.G. Hatch led VQ-2 through the remainder of the busy 1960's when Soviet naval activity and Arab-Israeli tensions in the Mediterranean, as well as the Vietnam War, tugged at the squadron's limited assets.

A Period of Continued Crisis

The decade of the 1970s continued to be frequently punctuated by international crises in the VQ-2 theater of operations, and especially in the Mediterranean. Notable among these were the 1970 Jordanian Crisis, the 1973 Yom Kippur War, the 1974 crisis in Cyprus and the series of crises in Lebanon. These and other situations invariably resulted in the presence of the U.S. Sixth Fleet offshore, which in turn required the services of VQ-2 in providing

the urgently needed tactical intelligence. Under Skipper Al Gallotta, VQ-2 received its second Meritorious Unit Commendation for Superior Electronic Reconnaissance operations during the Jordanian Crisis from 9 September to 31 October 1970. In part, the citation stated: "These units (including VQ-2) contributed significantly to the effectiveness, mobility and success of fleet operations which were vital toward maintaining peace in the Mediterranean."

Along with the presence of the U.S. Sixth Fleet at these crisis situations, came the ever increasing presence of the Soviet Navy in Admiral Gorshkov's new peacetime instrument of foreign policy role. VQ-2 must now split its collection assets to monitor the actions ashore and those of the nearby Soviet naval units in an eyeball-to-eyeball stance with our own Sixth Fleet ships.

The Arrival of the EP-3E

The decade of the 1970s brought a vastly improved electronic reconnaissance platform to the VQ squadrons. The aging EC-121M was no longer able to meet the demands of high-tempo fleet reconnaissance missions in the dynamic environment of superpower competition. Consequently, on 31 July 1971, while under the command of CDR J.E. Taylor, VQ-2 received its first EP-3E ARIES aircraft. By 1976, the sixth and final EP-3E had arrived in the squadron, giving it a complement of six EA-3Bs, six EP-3Es, a TA-3B which had been acquired in May 1972, and a UP-3A acquired shortly afterwards. The TA-3B and UP-3A were valuable for pilot trainer and logistics purposes.

The Visitors

Partly because of its superb location on Spain's Costa de la Luz, and partly because of its consistent superstar operational performance, VQ-2 had frequent VIP visitors during the 1970s. A typical VIP visit occurred on 8 September 1970 when VADM Gayler, who was the Director of the National Security Agency (DIRNSA), accompanied by an Undersecretary of Defense, paid a call on VQ-2. VADM Gayler, an Alabama native, was the sixth DIRNSA, and probably the first to visit VQ-2. As a naval aviator during World War Two, VADM Gayler became the first person in history to be awarded three Navy Crosses for Heroism in Combat.[1:76] After receiving the squadron briefing by the skipper CDR A.A. Gallotta, the two distinguished visitors were transported to Leonardo DiVinci Airport in Rome, Italy for the continuation of their worldwide SIGNIT facilities tour. Enroute Rome, the VIP was given a demonstration of the SKYWARRIORS's electronic reconnaissance equipment by a fellow Alabamian, LT D.C. East, and the Admiral then spent the remainder of the 2½ hour flight "knob twisting" to get the first hand "feel" of airborne electronic reconnaissance. Admiral Gayler remained as DIRNSA until 24 August 1972, when he was promoted to the rank of four-star Admiral and assigned as the Commander-in-Chief Pacific (CINCPAC).

EA-3B Losses

Although the very high fatality count of the 1960s decade was not repeated, several mishaps nevertheless occurred with the loss of twelve VQ-2 flyers. On 26 February 1970, a VQ-2 EA-3B was lost while operating in the Mediterranean off the USS ROOSEVELT (CV-42). The ROOSEVELT catapult system malfunctioned in mid-stroke, resul-

ting in the SKYWARRIOR "dribbling" off the bow and then being run over by the carrier. Four of the crewmembers made the ultimate sacrifice for their country in the accident as LCDR Blaine Thrasher, LT Tom Walls, Aviation Electrician First Class Bond and an unidentified passenger were lost at sea. A fifth VQ-2 crewmember, the plane captain, Petty Officer "Rosey" Rozier miraculously survived to be picked up by the plane guard ship aft of the carrier. In an informal interview with "Rosey" in his hometown of Townsend, Georgia years later, he related to the author the horrifying experience of this accident and the grief at the loss of his shipmates.

VQ-2 was under the command of CDR J.E. Taylor during the 1971-72 time frame. While no actual conflict was ongoing in the European theater at the time, the significant military hardware buildup in Soviet client states such as Libya, Syria and Egypt drew the majority of the squadron's attention. This buildup would soon erupt into a period of open hostilities between the Arabs and Israelis.

Commander J.D. Meyer assumed command of VQ-2 on 6 July 1973 and would soon be faced with a period of extremely high-tempo operations associated with the Middle East Yom Kippur War of October 1973. For the extremely valuable electronic reconnaissance operations performed by VQ-2 during that conflict, the squadron was awarded its first (and only, to date) Navy Unit Commendation (NUC).

A Good Save

On 8 March 1974, while still under the command of CDR "J.D." Meyer, another VQ-2 EA-3B aircraft was lost at sea while recovering on board the USS AMERICA (CV-66). Fortunately no deaths or injuries were associated with the incident, largely due to the Superior airmanship of the pilot. LT Dave Longeway kept the "WHALE" in the best possible attitude when ditching became inevitable. The cause of the accident was determined to be the parting of the purchase cable, which is connected to the arresting gear below decks, inside the coupling which attaches to the cross-deck pendant. All seven crewmen exited the aircraft before the "WHALE," true to its nautical nature, finally sounded, approximately five minutes after water entry. The AMERICA's rescue helicopter picked up the pilot, navigator - LTJG John Jones, Electronic Warfare Evaluator - LTJG William Lombardi, Plane Captain - Petty Officer Second Class Bob Delgiudice, and "Backend Operators" Petty Officer Third Class William Walls, Petty Officer Second Class David Francis and Petty Officer First Darrel Hawkings. LT Longeway was awarded the Air Medal for his superior airmanship during this incident.

Tragedy again struck VQ-2 on 9 July 1974, when the squadron's TA-3 trainer logistics aircraft crashed shortly after takeoff from Naples, Italy. The T-A3 was transporting a few maintenance personnel back home to Rota from Naples, where they had been involved in repairing another squadron aircraft. Killed in the crash were the pilot LCDR Dwight I. Worrell, the Navigator LTJG Douglas N. Davis and six enlisted aircrewmen/ground maintenance personnel as follows: AMN2 Robert F. Carney, ADJ2 Robert S.

Charrington, AE2 William P. Beuler, AQ2 John G. Pauljohn, ADJ3 Orval T. May and AE3 Carl F. Schwartz. July of 1974 also saw the retirement of the last EC-121M in VQ-2.

Some Historic "Firsts"

Five more Commanding Officers led VQ-2 through the decade of the 1970s as shown below:

CDR D.J. Alberg, USN

CDR D.N. Hagen, USN

CDR T.A. Peltz, USN

CDR G.J. Hopkins, USN

CAPT J.E. Taylor, USN

One of these VQ-2 commanding officers of the 1970s recorded a "first" when CDR Dale Hagen became the first Naval Flight Officer (NFO) to command a VQ squadron. The "non-pilot" aviation officer came into being on 16 October 1956 when the first five graduates of the Navigator/Bombardier School at NAS Corpus Christi, Texas received their Naval Observer (NO) wings.[6:213] Later, in the 1960s, the Naval Aviation Observer (NAO) was created when naval aircraft began to take on missions sufficiently complex and technological as to require the full-time services of an aviation officer other than the pilot. In 1969 the NAOs were redesignated as Naval Flight Officers (NFO), given a new-style set of "wings," and promises of more "positions of responsibility," which translated to commands. The command opportunities for NFOs came slowly however, as the traditional "pilot as a crew leader" philosophy prevailed.

The author can still vividly recall the frustration experienced as an NFO junior officer in VQ-2 from 1967 until 1970. In those early days, before the "enlightenment," an NFO was not allowed to be in the leadership position of detachment officer-in-charge, even if senior to the pilot. Fortunately, the Navy recognized the morale and other implications of such a policy, and by the mid-1970s, NFOs had begun to garner a few command positions in Naval Aviation. Since CDR (now RADM) Dale Hagen's tenure, four other NFOs have commanded VQ-2 and a fifth, CDR Jay Kistler, now awaits in the wings as the executive officer at Rota.

CAPT J.E. Taylor, who commanded VQ-2 from October 1978 until June 1980, bears the distinction of having commanded VQ-2 on two occasions. CAPT Taylor's second time in command of the squadron occurred as a direct result of an overall deterioration in the quality of squadron operations and a corresponding need for strong, experienced leadership to overcome this difficult period in VQ-2's history. As an individual who had accumulated a total of four previous tours in the two VQ squadrons, as well as 10,000 flight hours, "CAPT Jack" was the logical choice to put VQ-2 back on track. For the three week interim period of the turnover until CAPT Taylor made the move to Rota from his duties as Chief of Staff at the Naval Training Center, Orlando, Florida, CDR Robert L. Prehn filled in as the <u>interim</u> Commanding Officer of VQ-2. At the time of the unscheduled turnover, CDR Prehn was the Operations Officer on the CTF-67 Staff in Naples, Italy, then commanded by RADM Callaghan.

CAPT Taylor and his X.O., Tom Fritz, had their hands full while putting the unit back on track. However, through strong leadership and the dedication of the men and women of VQ-2, the squadron excelled, and was awarded a Meritorious Unit Commendation (MUC) for the period 1 March 1979 to 1 April 1980. In part, the citation accompanying the MUC award read: "During this period, Fleet Air Reconnaissance Squadron Two consistently displayed outstanding leadership, unparalleled expertise, and untiring dedication in ensuring the success of vital airborne reconnaissance endeavors."

The Frantic 1980s Begin

When CAPT Taylor was satisfied that VQ-2 was back on track, he returned command of the squadron to an O-5, CDR Tom Fritz, who led VQ-2 from June 1980 until June 1981. As VQ-2 entered the decade of the 1980s, with the usual high standards of excellence restored, the squadron would be facing perhaps its most dynamic and productive period during peacetime operations. The Arab-Israeli situation in the Eastern Mediterranean, the "Crazy Colonel" Khadafi in the Central Mediterranean's Gulf of Sidra, a crisis in the Baltic involving Poland and the Soviet Union, and the ever-increasing activity level and modernization of the Soviet Navy in VQ-2's theater of operations, all kept the squadron's assets stretched very thin through CDR John Flynn's squadron command tour. In addition to heavy tasking within the European theater, the Iranian Hostage Crisis and the increasing tensions in Nicaragua pulled some of VQ-2's already scarce electronic reconnaissance assets out of their primary theater of operations.

Hard Work and Reaping the Rewards

As VQ-2 entered the mid-1980s, the frenzied pace of operations did not let up. The Arab-Israeli Bekka War, the continuing Beirut Crisis with the U.S. Marine Barracks bombing, and the U.S. Sixth Fleet Christmas air strike into Lebanon, allowed little leisure time for the squadron.

VQ-2's high tempo of operations and extreme professionalism from 1 June 1982 until 31 December 1983 did not go unnoticed. It was, during this period that VQ-2 won more unit awards than ever before in the history of the squadron, including the first ever battle "E" for a Fleet Air Reconnaissance Squadron. Under Skipper Don East, the squadron was awarded the Meritorious Unit Commendation Ribbon for the period 1 June 1982 until 31 May 1983 "for meritorious service in connection with airborne reconnaissance in support of Second, Sixth and Seventh Fleet operations." The award citation went on to say: "Fleet Air Reconnaissance Squadron Two demonstrated an unprecedented capability to react to contingency requirements in the Atlantic, European and Indian Ocean Theaters. This outstanding performance, during a period of difficult and complex tasking, displayed aggressive enthusiasm and the highest degree of professionalism which made Fleet Air Reconnaissance Squadron Two the leader in battle group support and signals intelligence collection." The second award won by VQ-2 during this eighteen month period was the Navy Expeditionary Medal for its crucial role in the 1982 Lebanon Crisis. The squadron was awarded the NEM for the period August 1982 through November 1982. Finally, on 29 February 1984 VQ-2 was notified that it was the recipient of

the Battle Efficiency Award, or the Battle "E," for the period 1 January 1983 until 31 December 1983. This period spanned six months each of CDR East and CDR John Draper's Commanding Officer Tours. For this award, VQ-2 competed in the Special Mission Category for NAVAIRLANT Aviation Squadrons.

The Crises Continue

After CDR Draper, command of VQ-2 was turned over to CDR E.A. Caldwell as the situation in the Mediterranean remained nasty through the mid-1980s. Terrorism continued to show its ugly head in the Achille Lauro cruise ship hijacking incident and the follow-on U.S. Navy force-down of the Egyptian airliner carrying the Arab hijackers to freedom. In short order, these incidents were followed by the Rome and Vienna Airport slaughters perpetrated by Arab terrorists and the resulting U.S./Libya confrontation. And so, the need for VQ-2's quick-reaction airborne electronic reconnaissance capabilities continued the ever increasing spiral while the now 26 year old EA-3B and 22 year old EP-3E aircraft struggled to meet the fast paced demands.

Bringing VQ-2 Up to Date

Although one squadron lineman was killed in a ground accident on 17 August 1980, no major aircraft accidents or flight casualties occurred during the decade of the 1980s. As a matter of fact, after substantial damage to an EA-3B at Rota on 5 June 1975 (no injuries), the squadron began a long series of major mishap free flight hours.

CDR T.L. Hanson assumed command of VQ-2 in January 1986, with CDR Jay R. Kistler as his X.O., as activity in the Mediterranean

theater remained at a high level. His command tenure began in the midst of the large-scale U.S. Navy operations in the Central Mediterranean Sea off Libya. These operations were a strong message to Khadafi and his state-sponsored terrorism. During these operations, a VQ-2 EA-3B, operating from the Coral Sea, was intercepted by two Libyan MIG-24 FOXBAT aircraft 120 miles north of Tripoli. After coming close to the "WHALE," and passing underneath it, the FOXBATs left without incident.[3] It was VQ-2's operations during crisis situations such as those in the Central Mediterranean, as well as overall superior performance, that led to a second battle "E" award during this period.

The January 1986 operations in the Central Mediterranean Sea would not be the U.S. Navy's last encounter with the "Crazy Colonel" however, as two other clashes occurred in late March and mid April 1986. The first of these encounters began when U.S. Navy aircraft operating in the international waters of the Gulf of Sidra were fired upon by Libyan SA-5 missiles. During the next 24 hour period, at least two Libyan missile patrol boats were destroyed by U.S. Navy tactical air and surface combatants as well as the destruction of the Sirte SA-5 site guidance radar by AGM-88 (HARM) anti-radiation missiles. There were no U.S. losses. The second period of hostilities occurred in the wake of a Libyan terrorist bombing of an East Berlin nightclub and a TWA airliner, where U.S. citizens were killed in each case. These Libyan terrorist activities drew the military response promised by President Reagan, involving both USN Sixth Fleet and USAF F-111 assets in a major strike against the Colonel.

PART V

U.S. NAVY AIRBORNE ELECTRONIC RECONNAISSANCE TODAY AND TOMORROW

The People

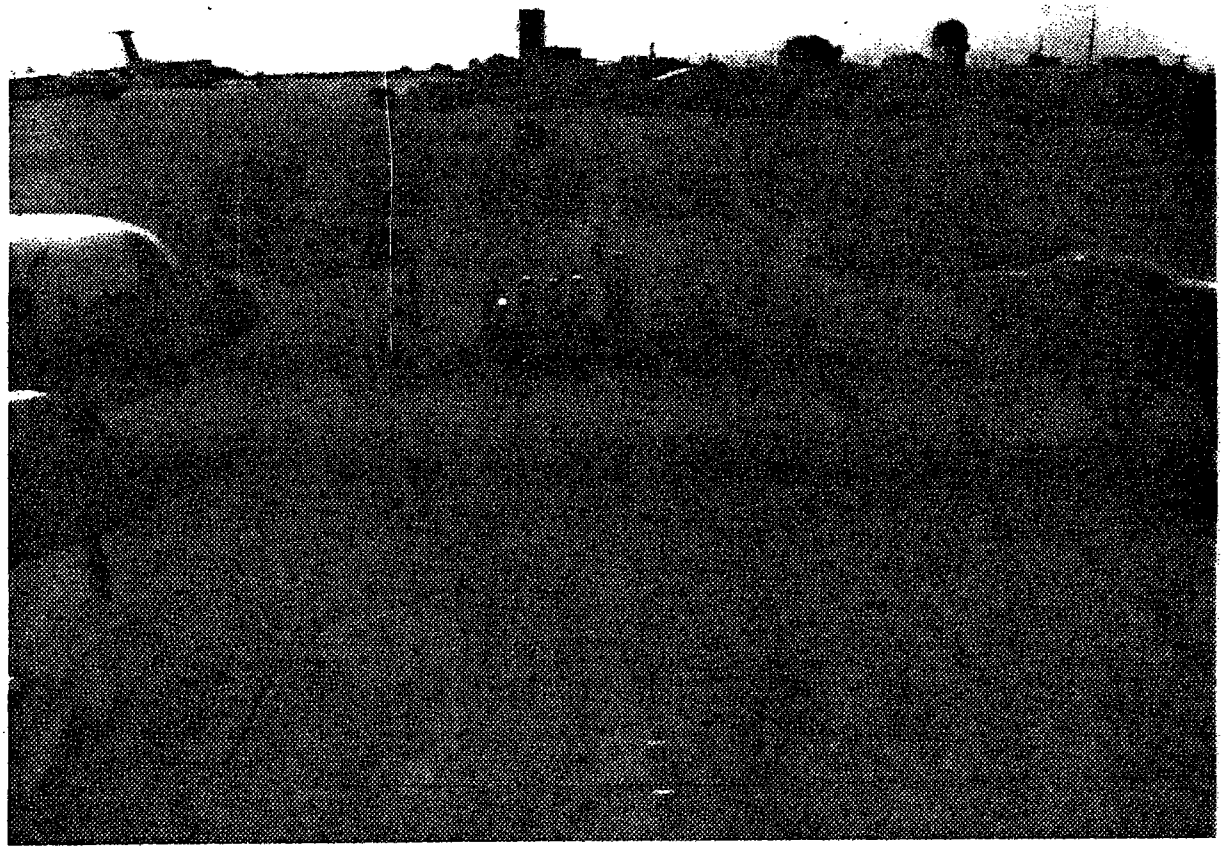
Today VQ-1 and VQ-2 continue to produce top quality intelligence collection, while flying some of the oldest aircraft, and and employing some of the most motivated and professional personnel in the fleet. Like any military organization, the Fleet Air Reconnaissance Squadrons recognize people as their principal asset. To identify the unique talents of its officer and enlisted aircrewmen, the VQ Squadrons employ the following designation descriptions:

1. Mission Commander (MC) - The designation of Mission Commander is reserved for select pilots and naval flight officers, who by virtue of their extensive knowledge of the principles of electronic warfare, squadron aircraft operations, and crew coordination, have been designated by the Commanding Officer as the person ultimately responsible for the conduct of the mission. This responsibility makes it imperative that the MC maintain full awareness of every aspect of the intelligence collection mission.

2. Electronic Warfare Aircraft Commander (EWAC) - The Electronic Warfare Aircraft Commander is a pilot with a high degree of maturity, experience, aeronautical skill, ability to perform under stress, and a knowledge of electronic warfare. His primary responsibility is to ensure the inflight safety of the aircraft and crew.

6. In this 1977 "Lineup," three "Repeat Offenders" in the VQ community were (second from left to second from right) Chief George Phillips (now a Lieutenant), Chief Bob Ayello, and Chief Bill Stone (now a Chief Warrant Officer). Phillips and Ayello served multiple tours in VQ-1 while Stone served two tours in VQ-2.

8. CDR John Draper relieves CDR Don East as C.O. of VQ-2 on 1 July 1983 at Rota, Spain.



3. Electronic Warfare Tactical Evaluator (EVAL) - The Electronic Warfare Tactical Evaluator is a Naval Flight Officer tasked to manage the planning, collection and reporting requirements of the mission. The political sensitivities inherent in the various areas of VQ operations require the EVAL to be completely knowledgeable in areas of U.S. and foreign national objectives as well as military strategy and tactics.

4. Electronic Warfare Navigator (EWAN) - The Electronic Warfare Navigator is a Naval Flight Officer who has a complete understanding of several navigator systems as well as a thorough knowledge of the airborne electronic reconnaissance mission.

5. Electronic Warfare Aircrewmen - The backbone of the VQ electronic warfare crew is made up of highly professional enlisted naval aircrewmen. The flight engineers on the EP-3E are usually drawn from the AD, AM and AE ratings. They are responsible for overall airworthiness of the airframe, from preflight through completion of postflight. In the EP-3E, the radioman's position is usually manned by an AT who must be fully knowledgeable of the aircraft communication/navigation systems. The EP-3E Airborne Electronic Supervisor, or "tech," is a senior AT who is responsible for ensuring all the sophisticated electronic warfare equipment is in optimum operating condition. The laboratory or "lab" operator is an airborne electronic warfare analyst whose tasks require a detailed knowledge of the complex analysis and recording systems on the EP-3E. The bulk of the VQ naval aircrewmen aboard the EP-3E and EA-3B aircraft are designated as Electronic Warfare Operators (EWOP). These highly trained technicians master

the operations of complex electronic reconnaissance equipment as well as the myriad details of electromagnetic signals of interest.

The Ground Support Personnel

Although the aircrew personnel sometimes seem to receive the primary focus of attention and publicity, they could not perform their vital mission effectively and safely without the dedicated efforts of the ground personnel. The VQ squadrons employ an extremely diverse spectrum of ground support personnel who are involved in such areas as aircraft and equipment maintenance, administration, training, intelligence, safety, signals analysis and reporting, legal, public affairs, and a variety of "creature comfort" functions. These personnel are equally as proficient and dedicated as the aircrews in their performance of mission.

The "Crabs"

In addition to the men and women in uniform, the VQ squadrons also employ a variety of DoD and industry contractor civilian personnel to perform certain highly-specialized functions. These VQ civilian personnel are fondly referred to as "the Q-Crabs."

One group of these civilian personnel are furnished to the VQ squadrons by the Reconnaissance, Electronic Warfare, and Space Operations, Navy (REWSON) Division of the U.S. Navy Space and Naval Warfare Systems Command. These individuals, operating in technical/operational pairs, act as special assistants to the VQ squadron Commanding Officer as well as performing specified engineering functions in the squadron special projects " Bicycle Shop." Mr. "Chuck" Christman began the VQ-1/REWSON association in 1955, and was paired with Mr. "Elmer" Ackerberg, who arrived

onboard in the mid-1960s. Mr. Christman remained with VQ-1 until 1979 when he was replaced by Mr. Larry Sharp. Mr. Winton Lowery and "Nick" Nickelson began the VQ-2 association in 1967, and were replaced in the 1970s by "Pete" Petersen and Max Richardson. Messrs John Boyd and "Mark" Franklin occupy the REWSON billets in VQ-2 today.

Other civilians supporting the VQ squadrons over the years have been the technical representatives (TECHREPS) of the Lockheed and Douglas Aircraft Corporations, as well as intermittent support by various computer and electronics companies. Some of these individuals, such as the late "Danny" King, have been ardent supporters of the VQ community, both on and off duty.

EW Training for VQ-1/2 Personnel

Part One of this history documented the establishment of the Special Projects School for Air at NAAS San Clemente Island, California on 1 July 1944. Since that time, the training site for airborne electronic reconnaissance crewmen has relocated on several occasions. At various times, the officer and enlisted training could be found at sites such as 3801 Nebraska Avenue in Washington, DC; at NAS Glynco, Georgia; or at Corry Field in Pensacola, Florida. The training for airborne electronic reconnaissance finally settled down in Pensacola, at the Naval Technical Training Center Corry Field in 1974 as the Consolidated Navy Electronic Warfare School (CNEWS). The CNEWS facility remains there today, operating several courses which are structured for the individual needs of the electronic warfare evaluator, electronic warfare aircraft commander, and the various enlisted electronic warfare operators.

VQ-1 Today

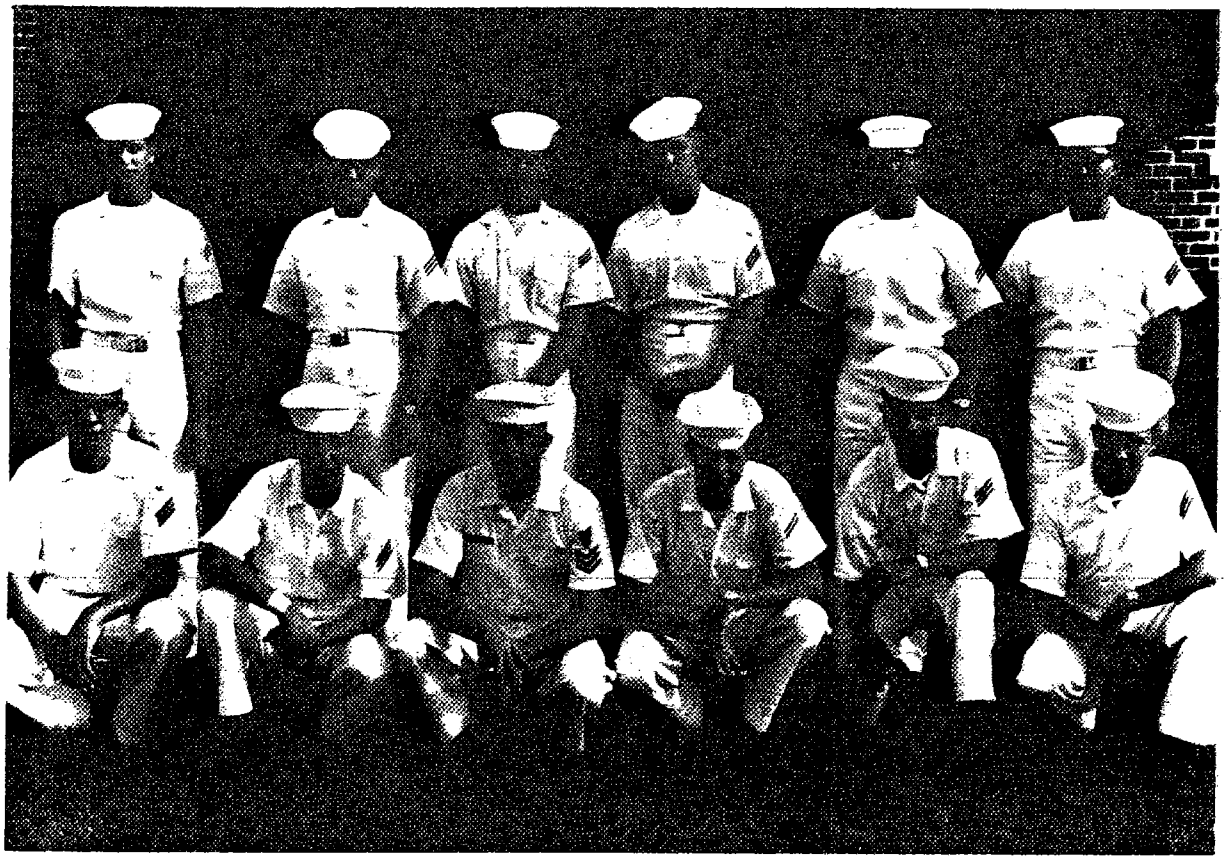
Todat at NAS Agana, Guam, VQ-1 operates four EP-3E ARIES, two EP-3B BATRACK, seven EA-3B SKYWARRIOR, two P-3A ORION and one UP-3 ORION aircraft. At the time of this writing, VQ-1 was under the command of CDR Earl R. Smith and had a total complement of 120 officers, 950 enlisted, and 6 civilian personnel. The squadron remains committed to providing airborne electronic reconnaissance support to Pacific area commanders, under the operational control of Commander Task Force Seventy Two (CTF-72) located in Kami Seya, Japan.

In the past seven years, VQ-1 has monitored the dramatic buildup of the Soviet Pacific Fleet as considerable Kremlin emphasis was shifted to the Far East region. VQ-1 reconnaissance missions provide Pacific commanders and the national authorities with vital information relating the technical and operational capabilities of this growing Soviet Pacific Fleet. Pacific littoral conflict and crises have also drawn a considerable share of VQ-1 reconnaissance missions in recent years. Such occurrences as the KAL airliner shootdown, frequent flare-ups in Korea, the Chinese-Vietnamese conflict and the various Persian Gulf area crises have kept the squadron on the move.

Finally, VQ-1 also plays a major role in fleet exercises. Acting as both BLUE and ORANGE electronic reconnaissance assets, VQ-1 not only provides the opposing commanders with the near real-time intelligence required for tactical decisions, but also gains an excellent opportunity for squadron aircrew training.

VQ-2 Today

3/4. Shown in the above photo (front row left) is CTSN Bob Bennett who was a frequent member of VQ-2 over the years from 1967 until 1984. Bennett is shown in the photo with his CT class "A" T-Branch instructor CTT1 Don East in 1963 at Corry Field in Pensacola, Florida. Senior Chief Bennett is shown in the insert photo in 1982 when he was serving as the EW Department Chief Petty Officer. MCPO Bennett is currently the Force Master Chief of CTF-67 in Naples, Italy.



1. This 1966 photo shows ENS Jack Lee Pedersen (bottom row, second from right) at his graduation from the Airborne ELINT School at NAS Glynco, Georgia. ENS Pedersen was later killed in an EA-6B aircraft accident while operating from the USS ENTERPRISE in 1975. The main academic building at the Consolidated Electronic Warfare School (CNEWS), Corry Station, Pensacola, Florida, where VQ crewmen are now trained, is named in his memory. Also shown top left is LT (now Rear Admiral) Grady Jackson, who was the Airborne ELINT School Course Director at the time. Admiral Jackson is now the Director the U.S. Navy EW Division on the CNO staff. Top right is the author, ENS Don East, an instructor at the school.

3/4. Shown in the above photo (front row left) is CTSN Bob Bennett who was a frequent member of VQ-2 over the years from 1967 until 1984. Bennett is shown in the photo with his CT class "A" T-Branch instructor CTT1 Don East in 1963 at Corry Field in Pensacola, Florida. Senior Chief Bennett is shown in the insert photo in 1982 when he was serving as the EW Department Chief Petty Officer. MCPO Bennett is currently the Force Master Chief of CTF-67 in Naples, Italy.

Today, at NS Rota, Spain, VQ-2 operates six EP-3E ARIES, six EA-3B SKYWARRIOR, and one P-3A ORION aircraft. At the time of this writing, VQ-2 was under the command of CDR Terry L. Hanson and had a total complement of 100 officers, 580 enlisted, and 3 civilian personnel. VQ-2 continues its electronic reconnaissance support to European and Atlantic area commanders, under the operational control of Commander Task Force Six Seven (CTF-67) in Naples, Italy.

In November of 1985, VQ-2 celebrated the significant milestone of surpassing 10½ years and a total of 70,000 major mishap free flight hours. The time clock for this milestone began on 5 June 1975 when an EA-3B sustained substantial damage from a bleed air leak in the center wing box. There were no personnel injuries in this mishap. The attaining of 70,000 hours of major mishap free flying is acknowledged as a significant event in any U.S. Navy aviation community, but it is especially noteworthy considering the twenty-year plus age of the squadron aircraft.

Because of the geographic and political nature of the region, VQ-2 is constantly stretched to the operational maximum limits. With the high tempo of Soviet Naval operations from the Black Sea, Baltic Sea and Northern Fleets in recent years, VQ-2 has spent a considerable amount of time "over the high seas." More importantly, VQ-2's theater of operation has been the sites of one major international crisis after another. For example, since 1980, VQ-2 operations have provided vital information on the Gulf of Sidra clashes, the Polish Worker Crisis, the Bekka War, the continuing East Mediterranean crisis including the evacuations of

international civilians and the PLO, the U.S. Marine Barracks bombing, and the TWA 847 hijacking.

At the time of this writing, VQ-2 remains heavily involved in support of the U.S. Sixth Fleet conducting operations in the Central Mediterranean Sea off Libya in connection with America's anti-terrorist stance. In addition to a heavily packed operational schedule, VQ-2 continues to provide electronic reconnaissance assets for both BLUE and ORANGE force commanders in regional fleet exercises.

The VQ-2 squadron emblem probably best summs up what airborne electronic reconnaissance is all about. The emblem was designed in 1959 by Lieutenant Buckenhauer, who was killed shortly afterwards in an aircraft accident. The black bat symbolizes the Martin P4M-1Q aircraft employed by the squadron in its earlier days. Today it represents the EP-3E and EA-3B aircraft. The lightning bolts are representative of electronic reconnaissance. The blue field and white stars represent the night sky which is the natural environment of the bat. The clouds represent high altitude flying and the use of cover, symbolizing undetected presence. The outer red border represents the original red field of the squadron flag, flown when VQ-2 was in Port Lyautey, Morocco.

The Future of U.S. Navy Airborne Electronic Reconnaissance

The future of the U.S. Navy's Airborne Electronic Reconnaissance Program must be viewed with a mix of pessimism and optimism. Had this research effort been completed before May of 1986, a view of the future for VQ-1/2 would have been entirely pessimistic! The current holders of the VQ Airborne Electronic Reconnaissance

legacy appeared to be facing only more old "hand-me-down" aircraft and "band aid" capability fixes for both the carrier- and land-based assets.

First of all, after more than twenty-six years of faithful services as the VQ carrier-based asset, the aging EA-3B SKYWARRIOR is currently scheduled to be retired during a phase out period ending in 1992. Tragically, there was to be no organic carrier capability replacement dedicated to airborne electronic reconnaissance. Instead, the replacement capability, named Battle Group Passive Horizon Extention System (BGPHES), was to be a "black box" to be flown by normal carrier-based S-3 VIKING ASW aircraft. In its primary mode, the BGPHES black box would receive and automatically data link signals back to the carrier where they would be "processed" by non-aircrew personnel. The disadvantages of such a system were immediately and intuitively obvious. Not only was the S-3 aircraft on a short, tight tether to the carrier due to transmission path limitations, but while flying this black box in the electronic reconnaissance role, the S-3 was effectively taken out of its primary ASW mission. Most importantly however, there would be no trained and experienced VQ "team in the sky" to provide the all important operational flexibility and the "immediate" distillation of collected information for use by battle group commanders. Instead, there would be a flow of "unevaluated" information back to the carrier for subsequent evaluation and distillation. Such an operation removed the VQ aircrew talent from the carrier where it has always provided a synergistic interaction with specialized command spaces such as CIC. Perhaps the ultimate flaw in this

program was the effective severing of the carrier experience carried back to the VQ squadrons by the EA-3B detachments. Without this personal "fleet input" to the VQ squadrons from the tailhook society, the ability of the squadrons to understand and fulfill the information needs of the battle group decision makers would be dramatically diminished.

In May of 1986, fleet opposition to the BGPHES concept as a replacement for the EA-3B capability finally resulted in a new initiative. This initiative involves the acquisition of a replacement airframe that will be organic to the carrier, dedicated solely to the mission of airborne electronic reconnaissance, and operated by the fleet experts in this field--the VQ-1/2 "Batmen." The new initiative is currently being processed for the FY-88 budget inclusion of twenty-four new airframes and sensor sets. Although the airframe types were not specified as of this research, it is assumed the S-3 and C-2 will be considered, among others. This new initiative must receive strong and immediate Navy, DoD, and Congressional approval if a viable airborne electronic reconnaissance capability is to continue within the carrier battle group/force structure! It should be pointed out, that if this initiative is successful, these will be the first new airframes ever provided the airborne electronic reconnaissance mission is its forty-four year history!

The land-based VQ assets are also in a perilous position. The current EP-3E airframes are 21-23 years old and the "backend" sensor equipment is largely of 1960's technology. The EP-3Es are the oldest P-3A airframes currently being operated by the U.S.

Navy. The only Navy program on the books to upgrade the landbased portion of the VQ capability is called CILOP (Conversion in Lieu of Procurement). This program is another in a historic series of "band aid" fixes to U.S. Navy airborne electronic reconnaissance. CILOP involves the conversion of twelve P-3C baseline (original model of the P-3C) aircraft as replacements for the ancient EP-3Es. True to tradition, these aircraft are already an average of 10 years old and will be turning 12 or 13 before they go into operational service with VQ-1 and VQ-2. Even worse, the "backend" electronic reconnaissance equipment will initially be mostly the same 1960s technology, simply cross-decked from the current EP-3E to the CILOP P-3C.

A researcher will find countless classified messages and open public statements where battle group commanders and others in Navy leadership positions have lauded the virtues of the VQ airborne electronic reconnaissance capability. Battle group deployment debriefs and crisis after-action reports have consistently stated that the VQ capability, both carrier and land based, was totally indispensable to the conduct of these operations. These same commanders have continually stated the operational need for significant improvements and updates to the VQ electronic reconnaissance capability. Amazingly and indescribably, however, until May 1986 these repeated requests had fallen upon deaf ears. Somehow, the lucidly-demonstrated need for modern organic battle group and theater airborne electronic reconnaissance capabilities consistently failed to be translated into actual assets.

Some feel this benign neglect of the VQ capability was primarily due to the age old unkept promise by the "national sensors" to provide tactical commanders with near real-time operational and technical intelligence data. Others feel it was primarily a reluctance on the part of the "hard kill" advocates to recognize the electronic warfare "soft kill" as an integral part of their sensor and weapon suite. In other words, they failed specifically to understand and/or appreciate the force multiplier effect of airborne electronic reconnaissance. Without the explicit support of the "hard kill" bomb droppers and missile shooters in the U.S. Navy, the miniscule VQ community cannot separately garner the support necessary to obtain and maintain state-of-the-art aircraft platforms and sensors. If the old Navy saying "community size translates to the health and well being of the capability" is true, then it is no wonder the very small VQ program appeared terminally ill!

At the moment, the U.S. Navy has a nucleus of well trained and motivated personnel with which to conduct the airborne electronic reconnaissance mission. These individuals fully understand the significance of Thomas Jefferson's words "eternal vigilance is the price of liberty." However, without <u>strong</u> and <u>immediate</u> support, forty four years of history, tradition and urgently required operational capability will rapidly cease to exist.

TABLE I

PRIMARY U.S. NAVY ELECTRONIC RECONNAISSANCE AIRCRAFT

	DESIGNATION	NAME	APPROXIMATE YEARS OF SERVICE	BRIEF DESCRIPTION
1.	PBY-5A	CATALINA (Consolidated)	1944-1945	Twin reciprocating engine amphibian. 8-man crew.
2.	PB4Y-1	LIBERATOR (Consolidated)	1943-1947	4 engine reciprocating. Twin tail. 10-man crew.
3.	PB4Y-2	PRIVATEER (Consolidated)	1945-1950	4 engine reciprocating. Single tail. 10-man crew.
4.	P2V-SERIES	NEPTUNE (Lockheed)	1947-1960	Twin reciprocating. 10-man crew.
5.	P4M-1Q	MERCATOR (Martin)	1950-1960	Twin reciprocating and twin jet. 16-man crew.
6.	A3D-1Q	SKYWARRIOR (Douglas)	1956-1959	Twin jet. 4-man crew.
7.	A3D-2Q	SKYWARRIOR (Douglas)	1959-present	Twin jet. 7-man crew. Redesignated EA-3B in 1962.
8.	WV-2Q	SUPER CONSTELLATION (Lockheed)	1960-1974	4 engine reciprocating. 31-man crew. Redesignated EC-121M in 1962.
9.	EP-3B	BATRACK (Lockheed)	1969-present	4 engine turboprop. 28-man crew.
10.	EP-3E	ARIES (Lockheed)	1971-present	4 engine turboprop. 28-man crew.

TABLE II

FLEET AIR RECONNAISSANCE SQUADRON ONE COMMANDING OFFICERS

	NAME	RANK/DESIG	DATES OF COMMAND	HIGHEST RANK ACHIEVED
1.	E.R. HALL	LCDR/PILOT	JUNE 1954 - JUNE 1956	LCDR
2.	W.H. HOFF	CDR/PILOT	JUNE 1956 - AUGUST 1956	CDR
3.	H. LARSON	CDR/PILOT	AUGUST 1956 - NOVEMBER 1957	CDR
4.	N.P. BYRD, JR.	CDR/PILOT	NOVEMBER 1957 - NOVEMBER 1958	CDR
5.	R.C. JAMES	CDR/PILOT	NOVEMBER 1958 - OCTOBER 1959	CDR
6.	W.R. KNOPKE	CDR/PILOT	OCTOBER 1959 - JANUARY 1961	CAPT
7.	T.E. MOORE	CDR/PILOT	JANUARY 1961 - DECEMBER 1961	CAPT
8.	J.W. JENKINS	CDR/PILOT	DECEMBER 1961 - NOVEMBER 1962	CAPT
9.	W.J. WACKER	CDR/PILOT	NOVEMBER 1962 - OCTOBER 1963	CAPT
10.	A.T. HOLT	CDR/PILOT	OCTOBER 1963 - NOVEMBER 1964	CDR
11.	F. CARMENT, JR.	CDR/PILOT	NOVEMBER 1964 - NOVEMBER 1965	CAPT
12.	M.E. KLEIN	CDR/PILOT	NOVEMBER 1965 - NOVEMBER 1966	CAPT
13.	R.F. DREESEN	CDR/PILOT	NOVEMBER 1966 - DECEMBER 1967	CAPT
14.	R.M. DELORENZI	CAPT/PILOT	DECEMBER 1967 - FEBRUARY 1970	CAPT
15.	C.L. CHUTE	CAPT/PILOT	FEBRUARY 1970 - JULY 1971	CAPT
16.	J. AKINS	CAPT/PILOT	JULY 1971 - SEPTEMBER 1974	CAPT
17.	T.W. CONNOLLY	CAPT/PILOT	SEPTEMBER 1974 - AUGUST 1976	CAPT
18.	W.V. PATTERSON	CAPT/PILOT	AUGUST 1976 - NOVEMBER 1978	CAPT
19.	D.W. HAGEN	CAPT/NFO	NOVEMBER 1978 - OCTOBER 1979	RADM*
20.	J.D. MEYER	CAPT/PILOT	OCTOBER 1979 - AUGUST 1981	CAPT
21.	J.M. BRIGHTMAN	CAPT/NFO	AUGUST 1981 - DECEMBER 1982	CAPT
22.	I.E. HUGHES	CDR/NFO	DECEMBER 1982 - MARCH 1984	CAPT*
23.	J.T. MITCHELL	CDR/PILOT	MARCH 1984 - JANUARY 1985	CDR**
24.	R.E. CLAYTOR	CDR/PILOT	JANUARY 1985 - MAY 1986	CDR*
25.	E.R. SMITH	CDR/PILOT	MAY 1986 - PRESENT	CDR*

* - continuing on active duty
** - killed on active duty while serving as Commanding Officer.

TABLE III

FLEET AIR RECONNAISSANCE SQUADRON TWO COMMANDING OFFICERS

	NAME	RANK/DESIG	DATES OF COMMAND	HIGHEST RANK ACHEIVED
1.	M.L. KALIN	CDR/PILOT	SEPTEMBER 1955 - JULY 1957	CAPT
2.	R.R. SPARKS	CDR/PILOT	JULY 1957 - OCTOBER 1958	CAPT
3.	C.H. SIGLEY	CDR/PILOT	OCTOBER 1958 - OCTOBER 1959	CDR
4.	P.D. HALPIN	CDR/PILOT	OCTOBER 1959 - APRIL 1961	CAPT
5.	A.G. ELDER	CDR/PILOT	APRIL 1961 - APRIL 1962	CDR
6.	H.E. FITZWATER	CDR/PILOT	APRIL 1962 - MAY 1963	CAPT
7.	R.M. DAVIS	CDR/PILOT	MAY 1963 - MAY 1964	CDR
8.	C.A. KISER	CDR/PILOT	MAY 1964 - MAY 1965	CAPT
9.	J.H. McCONNELL	CDR/PILOT	MAY 1965 - JUNE 1966	CAPT
10.	A.D. BURKETT	CDR/PILOT	JUNE 1966 - MAY 1967	CDR
11.	E.V. LANEY	CDR/PILOT	MAY 1967 - MAY 1968	CAPT
12.	T.E. DAUM	CDR/PILOT	MAY 1968 - JUNE 1968	CDR**
13.	R.W. ARN	CDR/PILOT	JUNE 1968 - JULY 1969	CAPT
14.	H.G. HATCH	CDR/PILOT	JULY 1969 - JULY 1970	CAPT
15.	A.A. GALLOTTA	CDR/PILOT	JULY 1970 - JUNE 1971	RADM
16.	J.E. TAYLOR	CDR/PILOT	JUNE 1971 - JULY 1972	CAPT
17.	J.F. McRAE	CDR/PILOT	JULY 1972 - JULY 1973	CDR
18.	J.D. MEYER	CDR/PILOT	JULY 1973 - JULY 1974	CAPT
19.	D.J. ALBERG	CDR/PILOT	JULY 1974 - JULY 1975	CDR
20.	D.N. HAGEN	CDR/NFO	JULY 1975 - JULY 1976	RADM*
21.	T.A. PELTZ	CDR/NFO	JULY 1976 - OCTOBER 1977	CAPT
22.	G.J. HOPKINS	CDR/PILOT	OCTOBER 1977 - SEPTEMBER 1978	CDR
23.	J.E. TAYLOR	CAPT/PILOT	OCTOBER 1978 - JUNE 1980	CAPT
24.	T.W. FRITZ	CDR/NFO	JUNE 1980 - JUNE 1981	CAPT*
25.	J.P. FLYNN	CDR/NFO	JUNE 1981 - JULY 1982	CAPT
26.	D.C. EAST	CDR/NFO	JULY 1982 - JULY 1983	CAPT*
27.	J.J. DRAPER	CDR/PILOT	JULY 1983 - OCTOBER 1984	CAPT*
28.	E.A. CALDWELL	CDR/PILOT	OCTOBER 1984 - JANUARY 1986	CDR*
29.	T.L. HANSON	CDR/PILOT	JANUARY 1986 - PRESENT	CDR*

* - continuing on active duty
** - killed on active duty while serving as Commanding Officer

TABLE IV

INCIDENTS OF U.S. NAVY ELECTRONIC RECONNAISSANCE AIRCRAFT FACING HOSTILE FIRE

	DATE	PARENT UNIT	TYPE ACFT	LOCATION	CASULATIES	AGGRESSOR COUNTRY
1.	8 APRIL 1950	VP-26 DET A	PB4Y-2	BALTIC SEA	10 MISSING	SOVIETS
2.	6 JUNE 1951	VP-6	P2V	SOJ OFF VLAD	10 MISSING	SOVIETS
3.	19 JANUARY 1953	VP-22	P2V	FORMOSA STRAIT	11 DEAD	CHINESE
4.	4 SEPTEMBER 1954	VP-19	P2V	SOJ OFF VLAD	1 DEAD 9 RESCUED	SOVIETS
5.	22 JUNE 1955	VP-9	P2V-5	BEARING STRAIT	7 WOUNDED	SOVIETS
6.	22 AUGUST 1956	VQ-1	P4M-1Q	OFF CHINESE COAST	16 MISSING	CHINESE
7.	16 JUNE 1959	VQ-1	P4M-1Q	SOJ OFF KOREA	1 WOUNDED	NORTH KOREANS
8.	14 APRIL 1969	VQ-1	EC-121M	SOJ OFF KOREA	31 DEAD	NORTH KOREANS
9.	20 SEPT 1969	VQ-2	EA-3B	DANANG, RVN	NONE	NORTH VIETNAMESE

TABLE V

FLEET AIR RECONNAISSANCE SQUADRON MAJOR MISHAPS (NON-HOSTILE FIRE, INVOLVING FATALITIES)

	DATE	PARENT UNIT	TYPE ACFT	LOCATION	CASUALTIES
1.	6 JAN 1958	VQ-2	P4M-1Q	OCEANA, VA	4 KILLED 2 INJURED
2.	16 OCT 1958	VQ-2	A3D-1Q	TURKEY	4 KILLED
3.	16 JAN 1960	VQ-2	P4M-1Q	TURKEY	16 KILLED
4.	22 MAY 1962	VQ-2	EC-121M	GERMANY	26 KILLED
5.	3 NOV 1966	VQ-2	EA-3B	EAST MED.	6 KILLED
6.	4 JUN 1968	VQ-2	EA-3B	ROTA, SPAIN	4 KILLED
7.	Early 1966	VQ-2	EA-3B	PHILIPPINE SEA	4 KILLED/ LOST AT SEA
8.	26 FEB 1970	VQ-2	EA-3B	EAST MED.	4 KILLED 1 INJURED
9.	9 JUL 1974	VQ-2	TA-3B	NAPLES, ITALY	8 KILLED
10.	28 MAY 1959	VQ-1	A3D-1Q	NEAR IWAKUNI	3 KILLED
11.	24 NOV 1959	VQ-1	A3D-2Q	NEAR WAKE IS	4 KILLED/ LOST AT SEA
12.	JAN 1961	VQ-1	A3D-2Q	ATSUGI, JA	4 KILLED
13.	16 MAR 1970	VQ-1	EC-121M	DANANG	23 KILLED
14.	4 AUG 1982	VQ-1	EA-3B	INDIAN OCEAN	6 KILLED/ LOST AT SEA
15.	23 JAN 1985	VQ-1	VA-3B	NORTH OF GUAM	9 KILLED/ LOST AT SEA

BIBLIOGRAPHY

1. Bamfort, James. The Puzzle Palace. Houghton Mifflin Company: Boston, 1982.

2. Carroll, John M. Secrets of Electronic Espionage. E.P. Dutton and Company: New York, 1966.

3. Gross, Richard C. "U.S. Jets Give Word to Libya." Newport Daily News, 24 January 1986, p. 1.

4. Infield, Glenn B. Unarmed and Unafraid. The MacMillan Company: London, 1970.

5. Lissitzyn, Oliver J. "Electronic Reconnaissance from the High Seas and International Law." Naval War College Review, (February 1970), pp. 26-34.

6. NAVAIR 00-80P-1, United States Naval Aviation 1910-1980, Deputy Chief of Naval Operations (Air Warfare): Washington, 1970.

7. OPNAV Forms 5750-2, Aviation History Summary, Fleet Air Reconnaissance Squadron One (declassified): Marine Corps Air Facility, Iwakuni, Japan, 1 January 1958 - 30 September 1966.

8. OPNAV Forms 5750-2. Aviation History Summary, Fleet Air Reconnaissance Squadron Two: Rota, Spain, 1 July 1957-31 March 1960.

9. Pound, Kate. "Navy Crash Study: Replace the A-3 Jet." Pacific Daily News, 3 March 1985, pp. 4.

10. Pound, Kate, "Replacement of A-3 Jet Still Years Away." Pacific Daily News, 4 March 1985, pp. 8.

11. Price, Alfred. The History of U.S. Electronic Warfare, Volume I. The Murray Printing Company: Westford, MA 1984.

12. Staff Writer. "An Exercise in Restraint." Newsweek. (28 April 1969): pp. 13-17.

13. Telephone interview with Captain John E. Taylor, USN (Ret.), Newport, RI: 22 March 1986.

14. Telephone interview with Lieutenant Commander Richard McBurnett, USN, Newport, RI: 27 March 1986.

15. Telephone interview with AO1 Freeman Dias, USN (Ret.), Bristol, RI: 20 April 1986.

16. _____. "Historical Report of Patrol Squadron Twenty-Six" (declassified). A report submitted as Enclosure 1 to Aviation History Summary: Port Lyautey, French Morocco, 29 April 1950.