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FILE TITLE: Enlisted Aircrews and Airborne Radio Direction Finding (ARDF) in SEA

AUTHOR: MSgt Bruce F. Nelson, SNCOA Student, 15 Feb 1996

Reviewed by:

AFEHRI Representative G.R. Akin date 30 DEC 97

EPC Representative Joe Chas date 13 Feb 98

Scanner Operator Samuel Adams date 4 Mar 98

APPROVED BY:

Gary R. Akin

GARY R. AKIN, CMSgt, USAF

Director

Air Force Enlisted Heritage Research Institute

fil 19-8-6
I.L.N.

Enlisted History Research Project

Enlisted Aircrews and Airborne Radio Direction Finding (ARDF) in SEA

16 February 1996

by

MSgt Bruce F. Nelson

SNCOA Class 96B Seminar #30

BACKGROUND PAPER
ON
ENLISTED AIRCREWS AND AIRBORNE RADIO DIRECTION FINDING (ARDF) IN SEA

"Unarmed, alone and afraid" is how the enlisted aircrews of the 6994 Security Squadron described the missions of Airborne Radio Direction Finding (ARDF) they flew in Southeast Asia between 1966 and 1974. (10:-) The unclassified story of the 6994 Security Squadron's esprit de corps and the humanitarian efforts of all of its detachments throughout South Vietnam and, later, in Thailand, have been openly acknowledged. But, it is the contributions and sacrifices of the dedicated enlisted "back-enders" to the ARDF missions that has not yet seen the light of day. The squadron was one of USAF Security Service's (USAFSS) most decorated units. It had more casualties as a direct result of combat than any other Security Service unit. (9:-) The details of their extremely dangerous and highly sensitive unarmed reconnaissance missions on the EC-47 "goony bird" aircraft are important to those of us in the Air Force who, today, discuss Information Warfare and "real-time intelligence" for tactical exploitation. The enlisted aircrews on these high priority, ARDF missions, were true trail blazers in this sense. These airmen and NCOs provided "real-time" intelligence that saved lives and provided "situational awareness" long before these terms became current day "buzz-words." 6994th Security Squadron's Unit History summed up the cost of these missions : "[I]t was inevitable that some men would sacrifice their lives for what had to be done." (11:-) It is time to acknowledge their contributions and their sacrifices.

The story of the ARDF missions and the enlisted aircrews is not any easy one to tell. Through fairly recent declassification efforts, an abundance of material has become available concerning the ARDF program. It is almost impossible in a limited forum to explore all the details and facets of these missions and the aircrews' efforts. Because we are focusing on the enlisted "back-end" aircrew, there may be a perception of slighting the officers, the "front-enders," whose significant accomplishments and sacrifices were no less than the enlisted crew. We need to leave the telling of their tale for another time. The same can be said for all the support personnel and all the other players who made this program such a success. For our purposes, we must narrow the focus.

However, we cannot limit our focus too much. In order to fully comprehend the importance of this program, we need to provide a fairly detailed look at the overall program. We need to understand the importance of these ARDF efforts. To help us do that, we will look briefly at the advent of the ARDF program, or as the developers named the program: Project "PHYLLIS ANN." Then, we need to examine the units assigned to fly these missions. We will pay particular attention to the 6994th Security Squadron that provided the enlisted crews. From there, we will move into a discussion of the actual missions including a look at the equipment and methods the enlisted aircrews employed. Finally, we need to fully appreciate the accomplishments of these missions and the hardships and sacrifices of the enlisted aircrews. Unfortunately, this story is not complete without looking at the combat losses and casualties incurred by these dedicated airmen. Let's begin at the beginning with the advent of Project PHYLLIS ANN.

"An essential aid in identifying and locating enemy positions in such an environment as that in Southeast Asia is the radio direction finder. With such equipment, friendly forces are able to 'triangulate,' i.e. map radio transmissions from different monitoring locations, and pinpoint the enemy position geographically. The great advantage of this technology is that the enemy, the Viet Cong and the North Vietnamese infiltrators, cannot rely solely on darkness and dense foliage to conceal troop movements."

(4:1) So begins the AFLC special projects report for project PHYLLIS ANN. The project was an effort to gain an immediate advantage of direction finding from an airborne platform. Although the U.S. Army had an ARDF mission and USAF had conducted ARDF tests in SEA (Project Hawkeye), by 1966, the senior leadership recognized a need for a greater capability. They wanted a full blown USAF effort to bring the potential for Airborne Radio Direction Finding (ARDF) to full fruition. The senior leadership recognized the potential of ARDF to aid tactical commanders in their prosecution of the war.

The real kick-off for a full operational USAF ARDF capability came from a Southeast Asia Operational Requirement (SEAOR) submitted by PACAF's 2nd Air Division on 11 January 1966. PACAF's requirements were straight forward. They wanted "enough aircraft that could (1) perform hunter-killer operations when teamed with ground or air force elements (2) 'cover an area approximately 100 miles in diameter' per aircraft, (3) survey seven major orbit areas 16 hours per day, and (4) acquire,

process, identify, and transmit the location of the enemy transmissions. Information and analysis by the airborne crews would then be available to forward air controllers, ground reconnaissance teams, ground forces in contact with the enemy, and other search-and-destroy airborne forces.” (4: 2,3)

Lt. Gen. Joseph H. More, 2nd Air Division Commander, passed on the Commander's, U.S. Military Assistance Command, Vietnam (COMUSMACV) sentiments on the importance of these requirements: “The ARDF program has demonstrated without equivocation the capability to provide rapid determination of enemy locations and movement which is of paramount intelligence importance.” (7:-)

With this high level support, Air Staff, AFLC, USAF Security Service (USAFSS) and other appropriate agencies went into action. A development team decided to procure the necessary equipment to convert forty-seven C-47 transport aircraft already in the USAF inventory to EC-47 ARDF aircraft. This was a high priority program. Both the speed of development/deployment effort and the cost of the program, stand as witnesses to how high a priority PHYLLIS ANN enjoyed. The timeframe from the initial statement of the operational requirement to the deployment of the first operational PHYLLIS ANN aircraft to SEA was four months. The EC-47 aircraft would continue to flow into Vietnam through 1968. The total cost of the modification of the C-47 aircraft and procurement of the necessary equipment was approximately \$21 million. (4:14)

Project PHYLLIS ANN became known by a variety of names during its life span. Once the PHYLLIS ANN project became an operational mission, it was renamed COMPASS DART. Due to suspected compromises the name of the operation was changed repeatedly over the years. From COMPASS DART the name was changed to COMBAT COUGAR, then COMBAT CROSS, and, finally, COMMANDO FORGE.

Initially, the enlisted aircrew ARDF positions were limited to two USAFSS operators. (4:11) The front-end crew consisted of an aircraft commander, a pilot, a navigator and a flight mechanic. The number of enlisted USAFSS operators would increase throughout the years as capabilities were added.

In order to operate these missions once aircraft began arriving in Vietnam, PACAF, through 7AF, assigned the mission to the 460th Tactical Reconnaissance Wing (TRW). “The 460th TRW provided the platform and ‘front-end’ crews, while the 6994th Security Squadron furnished SI-cleared [Special

Intelligence] 'back-end' crews for operations of the ARDF and the intelligence collection systems." (18:5)

The 6994th Security Squadron used NCOs and airmen exclusively for the "back-end" crews.

The 460th TRW established three Tactical Electronic Warfare Squadrons (TEWS) in Vietnam to actually fly the missions. The 360th TEWS was located at Tan Son Nhut while the 361st was at Nha Trang and the 362nd TEWS was at Pleiku. Over the years, 7AF would transfer the mission to the 483rd Tactical Airlift Wing and, finally, to the 56th Special Operations Wing. Similarly, higher headquarters relocated the TEWS at various times due to operational constraints and considerations.

To fulfill their tasking, USAFSS activated the 6994 Scty Sq at Tan Son Nhut AB on 15 April 1966. They also established several detachments colocated with the TEWS. Detachment 1 was activated 1 July 1966 at Nha Trang. Det 2 stood up at Pleiku on 1 September 1966. Finally, they established Detachment 3 of the 6994 Scty Sq at Nakhon Phanom, Thailand on 4 April 1969. In order to be located with their sister TEWS, USAFSS would move these detachments throughout the years. The Squadron itself relocated on 1 December 1972, to Nakhon Phanom, Thailand. It moved again on 29 January 1974 to Ubon, Thailand where it remained until inactivation on 30 June 1974. The Electronic Security Command eventually reconstituted the unit as the 6994th Electronic Security Squadron at Ft. George G. Meade, Maryland. It exists today as the 94th Intelligence Squadron under the Air Intelligence Agency (AIA). Det 1 eventually moved to Phu Cat where it remained until inactivation on 31 October 1971. Det 2 relocated to Da Nang where it was inactivated on 28 February 1973. Finally, Det 3 moved to Ubon, Thailand and was inactivated shortly after the 6994th's main squadron moved to Ubon in 1974. (12:-). Again, the 6994th Scty Squadron and its detachments consisted primarily of enlisted personnel.

The initial Unit Manning Document (UMD) for the 6994 Scty Sq called for 11 officers and 178 airmen. (12:-) It is important to understand the level of responsibilities assigned to these 178 airmen. According to CMSgt Luther David, a former EC-47 crew member, "It was a unique unit; there were very few officers assigned so there were many NCOs in very responsible positions-- everyone had considerable responsibility... A good example of the responsibility and experience I'm talking about could be found in the aircrews. There were E-4s who were certified Airborne Mission Supervisors and many times they had to make some very significant decisions concerning the actual success of the mission." (8:)

The skill and dedication of the aircrews did not go unnoticed by the front-end crews. In fact, upon entry into the program, front-end crews were provided the following information: "...backend operations are conducted by USAF Security Service personnel. These airmen you will find to be above average in intelligence and motivation. They handle a very sensitive job with considerable skill and their contribution to successful ARDF operations will be no less than your own." (6:4)

Let's turn our attention to the actual EC-47 missions. COMUSMACV tasked the units with "...day/night, all weather ARDF (Airborne Radio Direction Finding) operations against low-powered enemy operated transmitters in the RVN, and other permissive areas of Southeast Asia in support of requirements established by COMUSMACV and the Commander, 7AF." (23:1) The enlisted aircrews passed the results of these direction finding efforts immediately to Direct Support Units on the ground for rapid dissemination to tactical commanders. MACV tasked its tactical commanders to utilize this important and perishable information: "Except for those targets designated as 'Off Limits' by this headquarters, commanders are directed to take timely advantage of this valid intelligence to direct appropriate air strikes, naval gunfire, artillery, ground maneuvers, visual reconnaissance, FACs, or other activities in the vicinity to destroy the enemy. ARDF targets should be involved in day and night H and I (Harassment and Interdiction) fires..." (22:13)

As mentioned earlier, the EC-47s' missions were expanded throughout the years of operations. "...Each EC-47 mission was not necessarily limited to a 'single function,' e.g., ARDF. Airborne radio direction finding was indeed the primary mission for EC-47s in South Vietnam, but extensive COMINT (Communications Intelligence) collection was also routinely conducted on a daily basis from aircraft properly configured for the purpose." (20:19)

The enlisted "back-end" crews were responsible for all the components of the missions. Although the ARDF mission did require extensive coordination with the navigator, who actually computed the "fix" or location of an enemy emitter, an enlisted Airborne Mission Supervisor ran the mission. "Detailed instructions on what to look for, fix or collect were provided to back-end crews by the ACC [ARDF Coordination Center]." (20:5) An enlisted "back-ender" was also responsible for transmitting the results of the direction finding to the ground via secure, line-of-sight (LOS) radios.

We can glean a better understanding of the actual mission procedures from a brief description of the positions and the method the aircrews used to obtain an ARDF "fix." There were four different positions for the enlisted back-end aircrew. Not all aircraft were configured with all of these positions or capabilities; however, for our purposes, we are not going to delineate what type of equipment each aircraft had. At a minimum, all of the aircraft were outfitted with the basic equipment needed to perform ARDF and disseminate this information to the ground. These positions consisted of the "Y" console, the "X" console and the KY-8 communications position.

The "Y" console was the target-acquisition position. Target-acquisition in this sense means finding the radio frequency of enemy transmitter. An operator at this console searched the Radio Frequency (RF) spectrum for an enemy signal. (19:17) The operator would use an *a priori* knowledge of the enemy order of battle and potential operating frequencies to conduct this search. Once a frequency was identified, the operator would pass that information to the operator at the "X" console so he could take a Line-of-Position (LOP).

The "X" console employed a "phase measurement" technique "to determine the relative bearing of a signal to the EC-47 aircraft (i.e. the angle formed by the direction of the radio signal and the aircraft heading)." (19:16) The equipment operated from this console established "the direction of the enemy signal, as a result of computing through a complex process, the time of arrival of the target signal at the three antennas on the aircraft wings and nose." (19:16)

At this stage, the navigator became involved in the process. In order to get an accurate location of the enemy, "the position of the aircraft had to be precisely known and at least two relative bearings [LOPs by console "X" operator] taken on the transmitter. This required the backend crew to coordinate closely with the navigator who was responsible for providing the aircraft position and final computation of the exact location of the transmitter." (19:19) A proficient navigator could "compute his data, plot between six and twelve LOPs, fix a target, and pass his information for KY-8 transmission to the Direct Support Unit in seven minutes." (20:19) As indicated, the navigator passed his fix data to the special equipment operator in the back-end, who immediately transmitted it to the closest Direct Support Unit. (19:19)

The operator at the communications position had secure air-to-ground communications data

exchange via UHF and VHF transceivers with a speech security device known as a KY-8. He was responsible "for the real-time dissemination of fixes or communications data to Direct Support Units (DSUs), and other intelligence or operational agencies." (21:-)

Some aircraft had two additional search/target-acquisition "Z" positions. The "Z" positions housed additional collection receivers. The configuration would depend on the mission, but these receivers could be a mix of High Frequency (HF) and Very High Frequency (VHF) receivers. (20:30) We should not underestimate the importance of these two collection positions. There was a difference between a mission launched solely for "fixing" (ARDF) and one launched for "collection." "The primary *fixing mission* objective is fixing enemy radio transmitters. The entire mission is planned to obtain the maximum number of high quality fixes...The primary *collection mission* objective is to copy the text of enemy transmissions. Although targets are fixed on these missions, it is only accomplished when it does not interfere with the 'Z' operator's performance of his duties. Keeping the aircraft in range of the transmitter that the 'Z' operator is working takes precedence over fixing. [*Italics added*]" (1:7)

Some aircraft were equipped with two additional "Q" positions. These were target-acquisition and jamming positions; however, it appears they were used very little for jamming purposes. "The 'Q' console had the ability to jam or spoof enemy communications; this was an ECM function. Yet, unless the threat were to become such that it would be more advantageous to deny the enemy his communications, the airplane was more valuable as a finding-and-fixing and data-gathering platform. As things stood, the EC-47 was performing a reconnaissance and intelligence gathering mission. Because of these many overlaps with attack, reconnaissance, pure ECM, and intelligence areas, no clear-cut doctrine for tactical electronic warfare had yet been established." (20:51)

The USAF "fixing" and "collection" missions were conducted over "RVN [Republic of Vietnam], Laos, and in one area six miles from the coast of North Vietnam." (19:21) MACV added Cambodia after the Lon Nol government granted permission for overflights. (20:33) The area off the coast of North Vietnam began six miles off the coast of the DMZ and extended north to 20 miles south of Dong Hoi. USAF ARDF missions over South Vietnam flew primarily over the northwestern regions of the country. (19:12) USAF missions were assigned to all these areas primarily "because of the superior performance of the EC-47

(compared with U.S. Army platforms). (20:34)

For obvious reasons, all of these missions were highly sensitive. In fact, until August 1970, the only "front-ender" cleared for full access to the exact operations being conducted by the enlisted "back-enders," was the navigator. However, the inescapable fact was that, "in the cramped confines of the EC-47, with the lavatory back behind the equipment and operators, the front-end crew flying seven-hour missions day in and day out, could not help but be cognizant to some degree of the sensitive aspects of the missions." (20:5). After August 1970, the entire aircrew was cleared and indoctrinated for the sensitive information.

Although generally flown in a permissive environment provided by U.S air supremacy, these missions were susceptible to ground fire threats, particularly in Laos. The initial minimum operating altitude for these missions was 1,500 feet above ground level (AGL). This was raised to 2,000 feet AGL in March 1967 after enemy ground fire hit nine EC-47s. In high threat areas, the aircrews could adjust the altitude based on the preflight intelligence briefing. (15:16) Both crew safety and the potential for compromise of these missions mandated further precautions.

One fact that aided in both crew safety and deception of the true nature of the mission, was that the EC-47 looked like the powerfully armed AC-47 gun ship. With the exception of three antennas on the nose and wings, the EC-47 looked identical to the AC-47 gun ship. (19:22) The missions flew random patterns at AC-47 operating altitudes to make themselves indistinguishable from their more potent cousin. (20:37) Aircraft were also directed not to operate "closer than three miles ground distance to known enemy antiaircraft positions. (2:-)

Despite these precautions, there was always concern over the potential compromise of these operations. "Because the entire ARDF function depended upon enemy radio transmission, its success was heavily dependent upon the enemy's not knowing the aircraft's mission. Compromise would simply result in enemy shutdown of transmission, changes of frequency, or decoy transmission from a tactically useless site." (20:37)

In order to provide further deception as to the actual purpose of these missions, "leaflet drops were made to simulate psyops aircraft." (20:37) Transportation problems with moving the leaflets from one location to another limited the effectiveness of this deception. From the beginning of the operations in

1966 to April 1968, aircraft flying out of Pleiku and Nha Trang flew missions "with only one token box of leaflets as a cover in the event the aircraft came down in enemy-held territory." (24:-) However, between July and September 1969, "...approximately 70 million leaflets were dropped. (17:23) One last item worked in the favor of keeping the sensitive nature of these missions secret. "The fact that the...[Direction Finding] equipment and the "Y" and "Z" consoles were passive, as well as the ability of the aircraft to work on targets from standoff distances of five to seven or eight miles, aided in deception." (20:37)

Before we turn to the accomplishments of these missions and the sacrifices of the aircrews, we need to look briefly at a couple of key mission statistics. Higher Headquarters tasked the aircrews with 16 hours of daily coverage in 7 different areas. They generally flew 7 hour missions. With that in mind, let's look at some staggering statistics that vividly demonstrate the dedication and stamina of these aircrews. In FY 1968, they flew 11,632 sorties. (19:24) Total sorties in the two year period from July 1968 to July 1970 were as follows: "South Vietnam, 25,460 (84.03%); Barrel Roll [Laos], 1,131 (3.73%); Steel Tiger [Laos], 2,490 (8.21%); North Vietnam, 708 (2.33%); Cambodia, 507 (1.67%), and one mission flown over Thailand in June 1970...In all, 30,297" EC-47 sorties were flown during the two year period. (20:44). To better understand the dedication of these aircrews, one needs to further realize that during an eight month period from November 1969 to June 1970, "of all the flying hours over target requested, 95.02 percent were accomplished." (20:44) The flying units did this "with a 2.0 crew/aircraft ratio in support of an 150-hour-per-month utilization rate/aircraft." (19:14)

The operational results of these missions are equally impressive. When you begin searching through the unit histories or the summary reports of EC-47 operations in SEA, you are immediately confronted by the tactical significance of the information derived from these missions. The aircrews provided situational awareness to commanders on the ground and, in many instances, saved lives by accurately locating and identifying enemy units.

The examples of the effectiveness of these missions are numerous. Pages upon pages of praise for the skill, dedication, and importance of the aircrews exist. We will have to settle for just a few examples. The following information was taken from several different sources: "Precise data are not available, but SS [Security Service] personnel understand that 90 percent of all ARC LIGHT strikes were

based at least in part on ARDF information." (25: 6-1) According to Maj. Gen. Grover C. Brown, Director of Intelligence, PACOM, without the work of the EC-47 missions and that of more sensitive intelligence, "we would be completely in the dark about the enemy situation in the DMZ." (25:6-3) General William W. Momyer, Commander, 7AF echoed the same sentiments in a conversation with Colonel Williams, Commander 460th TRW in May 1967: "...I want all personnel in this mission to know that the primary and basic source of intelligence in this country comes from COMPASS DART (now COMBAT COUGAR), and I want the people in these squadrons to know it." (14:65)

One example of a typical calendar quarter for these missions would be similar to the data reported during the July to September 1969 timeframe. During this time, the aircrews passed 18,658 fixes to ground support elements. This represented a daily average of over 200 fixes. (17:22) During this same period, the unit received the following message from COMUSMACV: "The TEWS collection, both of fixes locating enemy transmitters and related intelligence information, is the core of the real time intelligence available to COMUSMACV and his subordinate commanders. Their prompt reactions to this information by ground maneuver, artillery fire, tactical air and Arc Light (B-52) strikes, frequently have foiled the enemy's plans and severely hurt his forces." (17:22)

The most rewarding moments for the aircrews must have been those instances where the efforts directly resulted in saving the lives of troops on the ground. One such example occurred on 21 November 1967, when a location passed in real-time prevented an ambush. According to a Direct Support Unit: "Reference message received 21/0136Z and fix passed immediately to Regt S-2. Forward Air Control aircraft sent into the air approximately 21/0205Z to recon the area. Air Strike requested in area by FAC. Convoy was notified of possible ambush. Four each UH-1D gunships sent to area due to approach of 11th Cavalry convoy along Route 1. As convoy reached area of fix location, helicopters began recon by fire. Fire was returned by VC and firefight began—Important point, this ARDF prevented serious ambush..." (25:6-3)

Another such example occurred when ARDF operations saved lives in November 1969. At that time, the North Vietnamese and Viet Cong attempted to clear out allied Special Forces camps and Fire Support Bases (FSB) on the border adjacent to Cambodia. "The Allied Forces relied on ARDF to provide

80% of the intelligence for this area...On 1 November, Fire Support Base Kate was evacuated because it was about to be overrun by a large NVA force. One significant basis for decision to evacuate was an ARDF fix on the NVA unit near FSB Kate." (18:24) Although the forces on the ground had casualties, they directly credited the ARDF intelligence as a significant factor in mitigating the loss of life. (18:24)

Throughout the years of these operations, feedback from all levels "fully illustrates the timeliness, accuracy and real-time intelligence value to the man on the ground." (20:40). Letters and messages received by 6994th Scty Sq or the 460th TRW continually stated the importance and value of these difficult missions. Unfortunately, there is simply not enough room to list all of the accolades received by these units. These missions were instrumental in large-scale operations as well as in small-scale battles. From operations such as JUNCTION CITY in Tay Ninh Province in 1967, to the TET Offensive in 1968, to cease-fire monitoring after the cessation of hostilities on 31 January 1973, and hundreds of operations and skirmishes in between, the enlisted aircrews of these difficult, dangerous and unarmed reconnaissance missions provided time critical intelligence to save lives and effectively pursue offensive operations throughout SEA.

Unfortunately, there was a price paid for these successes. Perhaps the most chilling thing to come across when researching a subject like this is when one begins to discover the details of the combat losses sustained by these units. Locked away in long forgotten unit histories are accounts like the following: On 5 February an EC-47 from the 362nd TEWS failed to return from its combat mission. The aircraft departed Pleiku Air Base at 0700 hours and was last heard from at 0815 when the pilot advised Lion GCI he was changing frequencies. No radio contact could be established and no mayday calls were heard. After extensive communications and air search the following personnel have been listed as missing in action: 362nd TEWS; Major Homer M. Lynn, aircraft commander, Captain Walter F. Burke, pilot, Major Robert E. Olson, instructor navigator, Major Harry T. Niggle, navigator, TSgt Wilton N. Hatton, flight engineer. Detachment 2, 6994th Security Squadron: SSgt Louis J. Cleaver, Sgt Hugh L. Sherburn, Sgt James V. Dorsey, Sgt Rodney H. Gott, and A1C Clarence L. McNeil." (16:7)

All tolled, the 6994th Scty Sq lost 14 enlisted aircrew members due to hostile action during EC-47 missions. Three additional airmen lost their lives on scheduled missions due to crashes not attributable to

hostile action. One other airman was lost during a ground attack at Tan Son Nhut AB in 1967. (12:-)

Although any loss of life is tragic, perhaps the loss of an aircraft known by its call sign "Baron 52," is one of the saddest and most ironic losses of the war. Both the circumstances and the timing of this loss conspire to make it so tragic. "Due to the withdrawal of United States forces from South Vietnam, the ARDF role of the EC-47 became a primary concern of higher headquarters." (13:C14) The EC-47 operations, by this time down to one unit operating out of Thailand, became "the primary means of detecting enemy infiltration and cease fire violations." (13:C14) On 5 February 1973, during such a mission, Baron 52 went down in Laos, 5 days after the cessation of hostilities and "four years to the day after the largest one day loss of life to the 6994SS occurred." (3:-) Although a search and recovery crew found and inspected the wreckage on 9 February, they were only able to recover two bodies. The recovery crew believed the other crew members were charred in the remains of the aircraft. (13:C14) Four 6994th members lost their lives in this tragedy: Sgt Dale Brandenburg, Sgt Peter R. Cressman, Sgt Joseph A. Matejov, and SSgt Todd M. Melton. (3:-)

The missions continued for another year after the loss of Baron 52. Finally, on 15 May 1974, the last EC-47 mission was flown as a commemorative flight to all members of the 6994th Scty Sq, its detachments, the various TEWS units, and all the ground support people. "The flights by the 6994th Scty Sq were unarmed reconnaissance missions, often times flown in areas of heaviest enemy activity, it was inevitable that some men would sacrifice their lives for what had to be done. With these people in mind, a glorious chapter in military air history ended." (11:-)

It is important to note that the enlisted crew members who gave their lives to this mission were not forgotten by fellow members of USAF Security Service or its reincarnations of Electronic Security Command, Air Force Intelligence Command or the present day Air Intelligence Agency. "There are several...dormitories, streets and parks named after some of the 6994SS personnel killed in the Vietnam War." (3:-). At Ft George G. Meade, Maryland, current location of the 94th Intelligence Squadron, McNeill Hall and Sherburn Hall both stand as a tribute to fallen comrades. At Misawa AB, Japan, a road leading to the 301st Intelligence Squadron (formerly the 6920th ESG) bears the name of A1C Daniel Reese and the base ski lodge and slope is dedicated to A1C Charles Land. There is also a picnic area named for TSgt

Raymond Leftwich. All three of these crew members lost their lives on 9 March 1967 when their aircraft was downed by enemy fire. They were the first casualties for the 6994th Scty Sq. Ironically, in 1987, 6994th ESS crew members deployed to Misawa from Ft. Meade, had a barbecue and played football at Leftwich Memorial Picnic area. Also at Misawa, the main operations building for the 301st IS is named for SSgt Louis V. Clever. (3:-).

In this day and age, a quarter of a century from the heyday of ARDF operations in SEA, it is interesting that we still wrestle with the advantages and disadvantages of providing real-time intelligence to the warfighter. Almost no one will stand up and argue against such an effort, particularly in light of our recent experience during Desert Shield and Desert Storm. But, prior to the Gulf War, there was a continuous battle in the intelligence community over this question. The fact is, ARDF operations and the enlisted crews who flew these missions, proved that real-time intelligence distributed to the tactical commander aids significantly in conducting offensive operations and saves lives.

From the advent of the high priority PHYLLIS ANN program in 1966 through the final ARDF mission flown under the COMMANDO FORGE covername in 1974, enlisted aircrews provided critical intelligence to tactical commanders. The NCOs and airmen of the 6994th Security Squadron provided information that was used to take direct action against enemy positions and, in many instances, to prevent the loss of life. The highest levels of command in SEA recognized the value of this information. These arduous, unarmed reconnaissance missions flown by dedicated airmen and NCOs, were tasked with locating and exploiting enemy communications 16 hours a day, seven days a week in seven operating areas throughout SEA. The sortie count of 30,297 missions in one two-year period stands as witness to the dedication and stamina of the aircrews. These enlisted aircrews from the 6994th Security Squadron blazed an important trail in the world of real-time intelligence. As is so often the case, they toiled in the shadows because of the classified nature of their mission. They handled the pressure and danger of these missions with incredible skill. Eighteen young men gave the ultimate sacrifice in the effort to provide intelligence that would save others. We owe all of these aircrews a debt of gratitude. We should never forget the young men who gave their lives trying to fulfill their mission to collect information and distribute it in "real-time" in order to save lives of those on the ground.

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