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EC-47 PROJECT DRILL PRESS



George Hollis, C-47 ABERU DRILL PRESS, 1967

Project **DRILL PRESS** was planned and implemented in response to a USAF Second Air Division (2d AD) requirement for airborne tactical communications intelligence (COMINT) support targeted against Viet Cong ground forces operating in South Vietnam.

This article is condensed from a Special Historical Study of Project DRILL PRESS, July 1965 - May 1966, prepared by Thomas N. Thompson, dated 1 December 1967. The study was recently declassified. References to Second Air Division are condensed from *The United States Air Force in Southeast Asia, The Years of the Offensive 1965 - 1968*, authored by John Schlight, dated June 2, 1989.

Background

Air Force assistance in South Vietnam was principally of two kinds: close air support of troops on the battlefield, by both tactical fighters and B-52s, and the airlift of supplies and personnel. In addition, the Air Force performed many other important missions that included reconnaissance, intelligence, psychological warfare, defoliation, destruction of enemy reinforcements and supplies, medical evacuation, and pacification and civic action.

Traditional photographic reconnaissance was hampered in Vietnam by the triple-tiered jungle canopy that covered much of the country, the frequent poor weather, and the Viet Cong proclivity to move and operate at night. Throughout the early years, both the Air Force and the Army searched for better techniques. They had some success with infrared cameras, which photographed heat radiating from human bodies and campfires. However, photography could not keep up with the mobile enemy, and early in 1965, the Air Force was experimenting with improved airborne detection equipment that could plot the location of Viet Cong radio transmitters on the ground.

The Air Force's focal point within Vietnam at this time was the Commander of the 2d Air Division in Saigon, Lt. Gen. Joseph H. Moore. Like his boss, MACV commander General William C. Westmoreland, Moore had seen extensive combat experience in World War II. He flew numerous tactical missions in the Philippines and Australia, and in Europe during the Normandy invasion and the subsequent campaigns across northern France and the Rhineland. In January 1964, he moved from his position as operations director of the Tactical Air Command (TAC) to take over the 2d Air Division in Vietnam. Moore, a boyhood friend of Westmoreland, was now serving both as MACV air component commander for South Vietnam and as the Thirteenth Air Force's forward commander for missions in the rest of Southeast Asia.

Requirement

The search for a complement to photo and infrared reconnaissance within South Vietnam turned even more to electronics. The enemy's widespread use of radios in the field was tailor-made for eavesdropping. 2d AD described its requirement and operational concept as ". . . effective targeting against Viet Cong tactical units in the field. ABERU (airborne emergency reaction unit) aircraft are required to fly near areas of suspected Viet Cong tactical units to intercept low-powered Morse and voice communications." The requirement concept of operations specifically referenced the EC-47 HAWKEYE airborne radio direction finding (ARDF) aircraft that had already located Viet Cong targets - and the air division felt this could be expanded and improved on. Lt Gen Moore was aware of the Tactical Air Command BLUE SKY/ROSE BOWL C-47 COMINT collection aircraft that were being moved out of Korea. . . and he wanted them reconfigured and put to use against the Viet Cong as quickly as possible. The commander figured to fly 300 night hours per month eventually with the four C-47s, but he wanted one immediately and three later, complete with USAFSS Morse and Annamese linguist qualified mission crews.

Production

Throughout the 3-months of July-September 1965, a significant number of "agencies" were involved in specifying the COMINT equipment best suited to satisfy the 2d AD requirement. Since only 2 of the C-47 ABERU aircraft were available, these agencies also addressed the follow-on requirement for 2 additional aircraft with COMINT collection systems. Starting from the 2d AD requirement for "immediate tactical COMINT support", the coordinating and approving echelons of command included: the Department of Defense, the Army/Navy/USAF Secretaries and Joint Chiefs of Staff, the National Security Agency, MAJCOMs (Tactical Air Command/Air Force Systems Command/United States Air Force Security Service), as well as Pacific Air Forces, Pacific Security Region, and Military Assistance Command, Vietnam.

Lt General Moore and 2d AD clearly favored the original 4-aircraft BLUE SKY/ROSE BOWL ABERU concept solution. Tactical Air Command made 2 of those aircraft (43-16254 & 43-49680) available in July, and USAFSS worked through the BIG SAFARI program to obtain needed collection equipments...and proposed to do the installation themselves. At the same time, USAFSS engineers suggested using the C-130 with modified ground mobile emergency reaction HF/VHF configured Little John huts in lieu of the additional C-47s requested by 2d AD. The NSA representative in Vietnam also proposed testing an Army Security Agency supported COMINT collection capability (Project DYE) installed on the C-123 aircraft. By mid-September, 2d AD accepted the proposal for USAFSS engineers at the 6940th Security Wing at Goodfellow AFB, TX to complete the first two C-47 ABERU equipment installations. They also accepted the 'C-130/Little John' proposal as the longer term solution. On 1 October 1965, the TAC provided BLUE SKY/ROSE BOWL aircraft were cleared and readied for new equipments by engineers at Goodfellow AFB, and TAC began preparing the airframes for the Vietnam theater. USAFSS began shipping the classified COMINT collection equipment to Yokota AB, Japan, and prepared for its immediate installation upon arrival of the TAC aircraft.

This reconfigured C-47 ABERU project was officially named DRILL PRESS on October 29, 1965.

Operations

The first DRILL PRESS C-47 arrived at Yokota on December 27, 1965. The second aircraft arrived in early January 1966. The USAFSS equipments were successfully installed and tested and the aircraft moved on to Tan Son Nhut Air Base, Vietnam. The HAWKEYE ARDF aircraft was already there working with 2d AD and MACV. The DRILL PRESS back-end operation moved into the NSA, Pacific (NSAPAC) compound until the 6994th Security Squadron was activated in April. The front-end crews were assigned to Tan Son Nhut in PCS status while the back-end crews were all assigned from other USAFSS units in a TDY status. Phase I of the 120-day test was activated on January 25, 1966, and the first tasked mission was flown the next day.

DRILL PRESS missions were immediately successful in exploiting the Viet Cong and North Vietnamese tactical communications. There were still command and control issues to be worked out among the major U.S. players, but the COMINT collection results were improving almost with every mission. The subsequent NSA 120-day test report published on May 3, 1966, included these remarks, ". . . the unique DRILL PRESS potential lies in its capability to be deployed rapidly to an area of interest anywhere in the theater against targets hard to hear from the fixed ground sites and to recover at a location where the collected material can be quickly processed and exploited with other related information. NSA also admitted that the voice tapes were superior to most ground collections results. And finally, ". . . it is the NSA judgment that the DRILL PRESS test has demonstrated the usefulness of this collection resource and that when employed as an integral part of the SIGINT system in South Viet Nam, the ABERU aircraft can make unique and meaningful contributions. Therefore, we propose to terminate the test and commence regular operations. . ."

Success

From their very first operational mission, DRILL PRESS mission crews were constantly lauded for their outstanding tactical intelligence support to 7th Air Force (formerly 2d AD), MACV and the war fighters on the ground.

". . . Drill Press maintained uninterrupted surveillance of low echelon NVA communications in the DMZ area. Staging from their operating location at Hue/Phu Bai, the project provided USM-808 with an invaluable source of intelligence relevant to tactical activities in the area. On 26 May, the Commanding General, USASA, in a message to the Director, National Security Agency, commented:

Current Drill Press operations, flying against VC comms in and near the DMZ with USM-808 acting as CMA, are proving to be invaluable. Traffic, encrypted in readable systems, is intercepted on every sortie and immediately turned over to the cryptanalytic and linguistic personnel in the P&R section at USM-808 following the flight.

Targeted against those NVA targets known or suspected to be passing traffic in readable, low level crypto systems (PAVN 324B NVA Division and associated communications), Drill Press collected more than 78,000 minutes of manual Morse traffic. Eighty percent of this traffic was unique to USM-808 sources and 83.5 percent of the traffic was mission intercept. More than 3,150 messages were contained in the traffic, 64 percent of which were readable and resulted in the generation of more than 2,160 intelligence reports."¹

By May 1967, maximum monthly flying hours were increased from 125 to 150 hours per airframe and aircrews routinely "maxed out" their own flying hours. The aircrews, operations and maintenance personnel kept DRILL PRESS in the air providing unique COMINT tactical information to MACV and direct support units on the ground.

1. [6994th Security Squadron History, Jan-Jun 1967.](#)