HISTORY OF SAC RECONNAISSANCE OPERATIONS, FY 74 (U)

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SAC RECONNAISSANCE OPERATIONS, FY 74 (U)[17]

Table 1

Operational Nickname	Aircraft	Type Coverage	Units to Which Aircraft Assigned	Missions Launched From
GIANT SCALE	SR-71A	PHOTO/ELINT	9th SRW	Kadena AB, JP
GIANT REACH	SR-71A	PHOTO	9th SRW	Griffiss AFB, NY/Seymour Johnson AFB, NC
BUFFALO HUNTER	Drones	PHOTO	100th SRW	U-Tapao AB, TH*
COMBAT DAWN	Drones	SIGINT	100th SRW	Osan AB, ROK
OLYMPIC TORCH	U-2R	SIGINT	100th SRW	U-Tapao AB, TH
OLYMPIC FIRE	U-2R	PHOTO	100th SRW	Davis-Monthan AFB, Az
OLYMPIC MEET	U-2R	PHOTO	100th SRW	U-Tapao AB, TH
OLYMPIC RACE	U-2R	Nuclear Air Sampling	100th SRW	Torrejon AB, Sp/Osan AB, ROK
OLIVE HARVEST	U-2R	PHOTO	1130th ATTG/ 100th SRW	RAF Akrotiri, Cyprus
BURNING PIPE	RC-135C	ELINT	55th SRW	RAF Mildenhall, UK/Eielson AFB, AK/Kadena AB, JP
COMBAT SENT	RC-135U	ELINT	55th SRW	Misawa AB, JP/RAF Mildenhall, UK
BURNING CANDY	RC-135D/ RC-135M/KC-135R	SIGINT	6th SW/55th SRW/376th SW	Eielson AFB, AK/Offutt AFB, NE/Kadena AB, JP/RAF Mildenhall, UK/Athens Airport, Greece
COMBAT APPLE**	RC-135M	SIGINT	376th SW	Kadena AB, JP
BURNING STAR	RC-135S	OPTINT/ELINT	6th SW	Shemya AS, AK
BURNING WIND	RC-135V	SIGINT	55th SRW	Offutt AFB, NE/RAF Mildenhall, UK
BURNING LIGHT	NC-135A***	NUDINT	55th SRW	Hickam AFB, HA

*(S) CH-3E helicopters operating from Nakhom Phanom AB, Thailand, an operating location of the 100th SRW, recovered most BUFFALO HUNTER drones over an unpopulated area near the base. The drone and its camera were loaded on a DC-130 and transported back to U-Tapao after each mission (SAC FRAG ORD 60-FY-16-01 (S), SAC(DOR), "BUFFALO HUNTER," 15 Feb 74).

**(S) Procedures for all RC-135M SIGINT reconnaissance missions were included in the BURNING CANDY operations order. However, guidelines for RC-135M sorties flown specifically for Southeast Asia coverage were contained in the COMBAT APPLE fragmentary order to the BURNING CANDY operations order (SAC OPORD 60-FY-03 (S), SAC(DOR), "BURNING CANDY," 1 Jul 74).

***(U) These aircraft not assigned to SAC.

sortie completed in February 1974, on the last day of the month, had been only 15 percent effective.[291] As a result, the JCS directed the Strategic Reconnaissance Center to have the U-2R conduct an overflight as soon as possible with the following priorities: Guantanamo Bay, SAM sites, all military airfields, and ports and harbors.[292] Two days later this requirement was expanded to include coverage of a Soviet task force about to enter Cuban waters.[293] As a result of these requests, a mission was completed on 29 April 1974, which satisfied both requirements.[294]

U (S) Third quarter OLYMPIC FIRE operations were especially hampered by problems encountered during the March flight schedule. Although eight sorties were scheduled and seven actually executed, none were completed. This resulted from unusually cloudy weather over the island, insufficient radar tracking support from collateral air control operations, and suspected threats to the mission aircraft that the Joint Air Reconnaissance Control Center at Key West, Florida, identified on a 29 March 1974 sortie and then ordered the U-2R to abort its mission.[295]

OLYMPIC RACE: U-2R High-Altitude Air Sampling Program

U (S) Besides photo reconnaissance of the Middle East, the U-2R began a second, totally new operation in FY 74. As FY 73 came to a close, Headquarters SAC was waiting for the Air Staff and United States Intelligence Board to grant approval for the U-2R to collect specimens of the radioactive debris released during the atmospheric tests of nuclear devices. The U-2R was expected to take over this mission in FY 74 because an alternative aircraft was needed to replace the Military Airlift Command's aging WB-57s, which in previous years had performed nuclear air sampling from Yokota AB, Japan.[296]

U (S) Although the Limited Test Ban Treaty of July 1973 prohibited the Soviet Union and the United States from conducting above-ground nuclear testing, no such agreement prevented other nations from doing it. In addition to the two superpowers, the People's Republic of China and France were the most prominent members of the nuclear fraternity.[297]

4 (S) Experience had shown that nearly 75 percent of the nuclear debris produced by the Soviet and Chinese tests passed over Japan and Korea.[298] Thus, Headquarters SAC suggested Osan AB, South Korea, as the best base for an air sampling operation with U-2Rs. It submitted this recommendation, along with cost analysis and operational concepts, to Headquarters USAF* in June 1973.[299]

4 (S) The reasons for assigning the U-2R the responsibility for nuclear air sampling were basically the same ones as for giving the versatile aircraft the Middle East photo-reconnaissance mission. The U-2 was economical to fly, it did not have to be refueled in the air, and it could be deployed on short notice with relatively small quantities of equipment and numbers of support personnel. U-2s could fly farther and at higher altitudes than MAC's WB-57s, and they had been used previously for air sampling** operations.[300]

4 (S) China was expected to test nuclear devices during FY 74. Two Chinese detonations actually occurred: one in July 1973 and one in June 1974. The U-2R covered both events successfully.[301]

4 (S) Although the official transfer of the high altitude sampling mission had not been completed, the U-2R, assisted by MAC's WB-57s which determined the path of the nuclear cloud, did cover the fifteenth Chinese nuclear test that took place on 13 July 1973. However, because approval for operations from Osan had not been granted and because of an unexpected movement of the nuclear cloud, the first OLYMPIC RACE*** deployment was to Torrejón AB, Spain.[302]

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* (U) For details, see Hist of SAC Recon Operations (TS), FY 73, pp 84-86.

** 4 (S) In September 1968 the last one, operating from a base at Mendoza, Argentina, terminated. This ended 11 years of successful U-2 air sampling from several locations (SAC Recon Hist (TS), Jan 68-Jun 71, p 65).

*** 4 (S) The nickname for high-altitude air sampling of nuclear debris with U-2Rs (SAC FRAG ORD 60-74-17-04 (S), SAC(DOR), "OLYMPIC RACE (U)," 15 Jan 74).

U (S) In compliance with an Air Force Technical Applications Center* request that the U-2 be ready at Torrejon by 13 July,[303] the Joint Chiefs of Staff directed Headquarters SAC to deploy the U-2 package to Spain on 11 July 1973.[304] One U-2R and a KC-135 carrying equipment and personnel left Davis-Monthan AFB the following day. After stopping enroute at Pease AFB, New Hampshire, the U-2R landed at Torrejon on 13 July 1973.[305]

U (S) Collateral intelligence sources advised that Chinese nuclear debris would reach the Spanish landmass sometime between 13-15 July 1973. True to the forecast, the nuclear cloud was in position for the U-2R to fly two air sampling missions in the Spanish area on 14 July 1973. Excellent results were obtained on the two missions, the only ones flown during the Spanish operation. The aircraft was allowed to operate only over Spain and the Atlantic Ocean to avoid a possible political confrontation with the other nations of eastern Europe.[306]

U(S) The U-2 air sampling operation was quite different from the program in which KC-135Rs and NG-135s monitored French nuclear tests in the Pacific. These latter aircraft measured and recorded the electromagnetic pulses given off during detonation, while the U-2R and its special equipment actually collected and analyzed nuclear particles in the atmosphere during flight. Air sampling was also managed somewhat differently than other U-2 reconnaissance operations. The AFTAC representative provided cloud movement data to the SAC task force commander who planned the mission at the operating location and determined when the aircraft would launch. Tracks varied since it was necessary to monitor a constantly moving nuclear cloud. Once drawn, however, the mission track was sent immediately to the Strategic Reconnaissance Center which monitored the sortie's progress throughout.[307]

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*U(S) The Air Force Technical Applications Center (AFTAC) established requirements for the aerial sampling of nuclear debris (SAC FRAG ORD 60-74-17-04 (S), SAC(DOR), "OLYMPIC RACE," 15 Jan 74).

U (S) The U-2R carried several pieces of special equipment for the collection and analysis of nuclear debris. Either high-pressure spheres or pallets configured with filter papers were fitted inside the Q bay. A D-500 directional receiver system, with a maximum range of about 5,000 feet in any direction, enabled the pilot to locate and monitor the nuclear debris. A B-400A count rate meter allowed him to monitor the characteristics of the air being sampled, while a recorder transposed them onto a linear graph. The recorder, mounted in the cockpit, furnished the pilot a running, visual presentation of the air samples being collected.[308]

U (S) Headquarters USAF formally approved transferring the WB-57's air sampling operation to the U-2R on 15 November 1973,[309] although the deployment of U-2Rs to Osan could not take place until overflight and basing arrangements were concluded with the governments of Japan and the Republic of Korea and hangar facilities made ready at Osan. The U.S. State Department required several months to complete these negotiations. Not until the Chinese had actually exploded their sixteenth nuclear device on 17 June 1974, could Headquarters USAF announce that all negotiations were concluded. At the same time, it directed Headquarters SAC to deploy OLYMPIC RACE assets to Osan and begin collecting from this location on 18 June 1974.[310] One U-2R, 43 officers and airmen (including six crews), and two C-141 logistics support aircraft flew from U-Tapao to Osan in accordance with the broad operational concepts that SAC had sent to Headquarters USAF in the previous year. The mission aircraft performed sampling enroute. On 19 June 1974, a second U-Tapao-based U-2R flew to Osan and collected nuclear debris on the way.[311]

U (S) U-2Rs flew eight air sampling missions from 18-23 June 1974. Six of these sorties gathered usable data. A total of 62.6 flying hours were logged. Of the eight launches, four were flown during the deployments to and from Osan, while three round-robin missions were conducted from South Korea.[312] Due to an unexpected split of the

nuclear cloud, the lone U-2R remaining at U-Tapao flew a round-robin sampling sortie over Thailand on 20 June 1974.[313] Six scheduled OLYMPIC TORCH sorties were canceled during June 1974,[314] in accordance with Headquarters SAC's decision to waive all U-2 photo and SIGINT missions in Southeast Asia for the duration of any Korean air sampling operation.[315]

BURNING STAR

[redacted]

*4 (S) This operation was nicknamed BURNING STAR, and the two aircraft were designated COBRA BALL I (61-2663) and COBRA BALL II (61-2664). For operational details, see Hist of SAC Recon Operations (TS), FY 73, pp 69-70).

[redacted]

U (S) The Detachment 1 commander, rather than the Strategic Reconnaissance Center, executed the individual RC-135S operational missions,[328] giving consideration to aircrew and maintenance status and to the greatest variable of all--weather![329] The aircraft would takeoff from Shemya whenever the Detachment 1 commander determined that it could be on station [redacted].

U (S) Severe Arctic weather, with winds frequently gusting to 50 knots, was liable to prevent the aircraft from launching at anytime of year.[331] It was of considerable significance, and probably due to a bit of good luck, that the RC-135S was on station for 200 (88 percent) of the 227 missions for which DEFSMAC was able to provide alerting data. Intelligence was collected on 65 of these sorties.[332]

BURNING LIGHT

U (S) The diversity, responsiveness, and experience of SAC reconnaissance operations and personnel were again demonstrated by the BURNING LIGHT program, conducted to measure the data given off during the test of nuclear devices.[333] Because of the United States-Soviet moratorium on atmospheric testing, SAC had monitored only French tests*

* U(S) Before resuming nuclear testing in July 1974, the French had detonated 51 nuclear devices. Of these, 34 had occurred in the Pacific area since 2 July 1966. The remaining 17 had been conducted in Algeria: four atmospheric tests were made at Reganne from 13 February 1960 to 25 April 1971, and 13 devices were exploded underground at Ekker from 7 November 1961 to 16 February 1966 (Msg (S), SAC(INE) to 8AF(INS), 13/1840Z May 74).

since it was assigned this mission in 1971.[334] BURNING LIGHT was the airborne portion of a larger nuclear collection effort, which the Defense Nuclear Agency (DNA) nicknamed HULA HOOP in 1973 and DICE GAME in 1974.[335] Basically, the BURNING LIGHT mission aircraft satisfied a single objective. This was to support the development of a miniaturized, inexpensive, highly sophisticated system for analyzing data from nuclear explosions and to gather information that would improve the United States' ability to predict effects of low-altitude nuclear weapons. A U.S. Navy ship, the Huntsville, also participated in the HULA HOOP and DICE GAME programs. Operating in international waters outside the Pacific test area, the Huntsville monitored the nuclear blasts, and the Defense Nuclear Agency launched drones equipped for nuclear sampling from its deck. The combined program provided a valuable means of expanding American knowledge about the effect of nuclear weapons for relatively moderate amounts of money, equipment, and manpower.[336]

4 (S) France conducted its nuclear tests approximately 2,700 nautical miles south, southeast of Hawaii on the Mururoa Atoll in the Tuamotu Archipelago of French Polynesia.[337] These tests normally took place from June to August, a period when winds and other climatic factors were most favorable.[338] Nearly all French nuclear devices were detonated from balloons, but an occasional one was dropped from aircraft.[339]

4 (S) FY 74 was a time of extensive nuclear testing by the French. A BURNING LIGHT deployment took place in the summers of 1973 and 1974. The magnitudes of the 10 nuclear explosion occurring during the two summers ranged from .12 to 155 kilotons. In both years SAC deployed reconnaissance crews from the 55th SRW along with KC-135 tankers and supporting maintenance personnel to Hickam AFB, Hawaii (OL-HB). Upon receiving notice of an impending detonation, the reconnaissance mission aircraft proceeded to the vicinity of the test range and orbited before, during, and after detonation.[340]

U(S) In FY 74, the Air Force Special Weapons Center (AFSWC) of Air Force Systems Command provided the NC-135As, which served as the BURNING LIGHT mission aircraft.[341] This was because SAC's KC-135R aircraft, which had monitored the French tests in FY 73, had been reconfigured for other missions. While one of the R models was responsible for collecting signal intelligence in the Cuban area, the other aircraft could operate as a "special" tanker, having the ability to both onload and offload fuel.[342]

U(S) Although a SAC-owned aircraft no longer collected nuclear data, national intelligence users probably did not want to lose the experience and expertise that SAC reconnaissance specialists had acquired during the previous years of BURNING LIGHT operations.[343] SAC was still required to furnish the task force commander, front end flight crews for the NC-135A,* and the tanker force along with associated maintenance personnel.[344]

U(S) The amount of nuclear data collected by the aircraft was sometimes affected by factors over which SAC had no control. The success of any mission depended upon the accuracy of collateral intelligence sources which furnished the date and the time detonation was anticipated. Last minute postponements and cancellations could limit the amount of collection gathered or prevent it entirely. Since the NC-135A refueled just before entering its orbit area and had only enough fuel to orbit for about 2-1/2 hours before beginning its return flight to Hickam, accurate, on-the-scene intelligence information was critical to the success of any mission.[345]

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* U(S) Also serving aboard the NC-135A were personnel assigned to the Defense Nuclear Agency, the Atomic Energy Commission, the United States Air Force Security Service (USAFSS), and the Air Force Technical Applications Center (AFTAC) (Rpt (S), 55SRW(TFC) to CINCSAC(DOR/LG) et al, "Burning Light/Hula Hoop 1973," 15 Nov 73; Rpt (S), 55SRW(TFC) to CINCSAC(DOR/LG), et al, "Burning Light/Dice Game 1974," 25 Sep 74).

U(S) For the most part, the 1973 BURNING LIGHT operation proceeded routinely. Two NC-135As, one under the sponsorship of DNA and the other under the Atomic Energy Commission, four reconnaissance crews, 13 tanker crews, nine KC-135As, and tanker maintenance personnel deployed to Hickam between 12-19 July 1973. All five nuclear tests were monitored between 21 July and 28 August 1973. Both NC-135As were launched for each event, and eight KC-135s refueled them on every mission. Useable intelligence was collected for all but the second detonation which occurred on 28 July 1973. Technical difficulties were believed to have postponed this test until early afternoon (2303Z) but, by this time, the two NC-135As were approximately 1,500 NM north of the test area on their way back to Hickam.[346]

U(S) The French usually interrupted their test series for about two weeks, probably to evaluate the results of tests already conducted. During this time the SAC task force had normally redeployed to the CONUS.[347] Not so in 1973. On 30 July 1973, largely to save money and jet fuel, the JCS directed that SAC's BURNING LIGHT package would remain at Hickam. The resulting savings was approximately $100,000. When French testing resumed in mid-August 1973, both KC-135As successfully monitored the last three tests that took place on 18,24, and 28 August 1973. The task force began redeploying on 16 September and all personnel, equipment, and aircraft had returned to their appropriate CONUS base by 19 September 1973.[348]

U(S) The French conducted no more nuclear tests until June 1974. Through no fault of SAC, the 1974 BURNING LIGHT deployment, from 5 June through 15 August 1974, experienced several problems.[349] Since the French usually detonated their nuclear devices between 7 and 8 a.m. local time, the NC-135A and supporting tankers had to leave Hickam around midnight if the former was to be in the orbit area, more than 2,600 nautical miles away, when detonation occurred.[350] However, noise abatement restrictions in effect at the Hickam/Honolulu International Airport prohibited water augmented takeoffs between 9 p.m. and 7 a.m. This further complicated mission planning.[351]

Water augmentation meant that water was injected into the tankers' jet engines during takeoff to produce additional thrust. The procedure created a great deal of noise, but without it, both the NC-135A and the tanker force had to launch with lighter fuel weights.[352]

U (S) Headquarters SAC, the Defense Nuclear Agency, and the Joint Chiefs of Staff tried unsuccessfully to persuade the Pacific Air Forces, the command responsible for determining flight procedures at Hickam, to waive the restriction.[353] The reason was that the objections of Hawaiian politicians and environmental groups were simply too strong.[354]

U (S) What was the impact of the noise abatement policy upon the 1974 BURNING LIGHT reconnaissance program? Essentially, it required a complete realignment of tanker operations. Instead of requiring the usual four tankers and one ground spare KC-135 to support each mission aircraft, two specially configured KC-135s, equipped both to onload and offload fuel in mid-air,* five regular KC-135As, and one ground spare were needed for each operational flight.[355]

U (S) Each of the five BURNING LIGHT missions flown in 1974 was conducted in the following manner. The single NC-135A** launched, followed immediately by three standard KC-135As in a cell. About 20 minutes later a "Christine" tanker and two more KC-135As also launched. The NC-135A and its associated "Christine" tanker were refueled three times each by their associated tanker cells prior to their rendezvous for a final refueling, just before the mission aircraft entered the collection area, some 3-1/2 hours after takeoff. This procedure

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* U (S) Two of the nine tankers deployed to Hickam in 1974 were configured to onload and offload JP-4 in the air. Known as "Christine" tankers, they were the two previous KC-135Rs (58-0124 and 59-1514), which in former years had been assigned to the 55th SRW for BURNING LIGHT reconnaissance operations.

** U (S) Only one NC-135A, belonging to the Atomic Energy Commission, was deployed for the 1974 BURNING LIGHT operation (Rpt (S), 55SRW(TFC) to CINCSAC(DOR/LG), "Burning Light/Dice Game 1974," 25 Sep 74).

allowed the NC-135A to orbit for about 2-1/2 hours before beginning its return flight to Hickam. Total flight time for the mission aircraft was approximately 16-1/2 hours, while the duration of the tanker sorties varied from two to 14 hours.[356]

U (S) Repeated postponements and cancellations of detonations by the French prevented the collection of as much nuclear data as desired during the 1974 BURNING LIGHT operation.[357] For example, although the first test was conducted on 16 June 1974, the NC-135A did not launch because intelligence sources failed to indicate that an event was to take place. The mission aircraft was in the orbit area four times during the last nine days of June and on 6 July. On each occasion no detonation occurred in spite of positive indications that balloon launches were imminent. On 7 July 1974, the NC-135A was again in its orbit area awaiting a predicted event, but fuel limitations forced it to begin the return flight to Hickam before detonation finally took place at 2315Z, much later than usual.[358]

U (S) Similar problems continued until mid-August 1974. Fifteen continuous days of bad weather in the test area during July apparently complicated traditional testing patterns.[359] Departures from usual operational procedures and French technical difficulties had turned the Defense Nuclear Agency's decisions to launch the NC-135A largely into "guess work."[360] Continual postponements and late changes in plans had made it impossible for the NC-135A to be in the orbit area for any of the five events that had occurred so far; moreover, funds allocated for the 1974 BURNING LIGHT operation were nearly exhausted.[361] Because of these problems the Defense Nuclear Agency and the Atomic Energy Commission decided jointly on 16 August 1974, to terminate the airborne, SAC portion of the 1974 nuclear collection program.[362] Although the French made two more detonations during this test series, the BURNING LIGHT task force began redeploying to the CONUS on 16 August, and the movement was completed on 19 August 1974.[363]