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Killian

TCS-1266-63/KH
25 March 1963

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MEMORANDUM FOR THE RECORD

**SUBJECT: Visit of Killian Committee Representatives,
General James Doolittle and Mr. J. Patrick
Coyne, to NPIC on 19 March 1963**

1. As arranged by Mr. Coyne and approved by Mr. Kirkpatrick, Executive Director of CIA, General Doolittle and Mr. Coyne came to NPIC at 0900 on 19 March 1963 for discussion, briefing and a tour of the facilities.

2. The first hour and a half were spent in discussing a wide range of problems or observations of U.S. reconnaissance and related intelligence efforts. Some of the major subjects were as follows:

a. Cuba-type situation and Photo Processing

Coyne repeated some of General Carroll's expressed needs for more photographic reproduction support - not only for the public relations type of releases but for provision to various joint, unified and specified commands. In view of this and the facts of volume, speed and the practice of U.S. farming out photo reproductions to SPPL, Westover, Mass.; Rochester, N. Y.; Del Rio, Texas; Mather AFB; NAVPIC, Suitland, Md.; and other bases it appeared to both Coyne and Doolittle that the Killian Committee should push for establishment of a large, multi-million dollar, first-class photographic reproduction plant in the Washington area. It was recalled that NPIC's photo laboratories were never intended for high volume primary processing but were intended for high quality support for the intelligence exploitation cycle and such retail basis



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primary processing as might be needed for black and white film or color film on an emergency basis. Coyne indicated that he knew what the DCI's position was vis a vis DIA in terms of centralized photographic interpretation at NPIC but that he didn't know what the DCI's position might be on a centralized photographic processing facility. I indicated that it might be a mistake to have all one's eggs in one basket and that it would be most useful to have the other named laboratories continually capable to take on selected primary processing or overflow processing even if a centralized photo processing capability were established in the Washington area. They both agreed to this.

They then went on to ever widening considerations of photo processing including how it is handled in overseas military commands in Europe, Japan or Thailand, how NPIC shares in this task, etc. It appeared to me that they had just recently become aware of the scope and importance of photographic processing in cold war or hot war and how well or poorly U.S. assets were integrated or could be made cumulative in responding to U.S. demands in the handling of one or more crises situations simultaneously.

b. Bomb Damage Assessment (BDA)

General Doolittle asked how NPIC would be expected to get into the BDA cycle following SAC reconnaissance of bombed areas. I answered with the view that under current directives NPIC would not get into this military cycle at all, that SAC would fly the photography, interpret the results and forward to DOD (DIA) for additional dissemination. Coyne stated this was absolutely correct. Doolittle indicated that this might not be acceptable in view of current differences between the SAC and USIB estimates prepared from the same data and the doubts which had thereby been engendered at high places. (Coyne said nothing but continued to make notes).

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c. Photo Interpreters

General Doolittle wanted to know about these kinds of people, where they come from, ideal characteristics, training programs, etc. I answered as completely as I could and then the subject of DIA photo interpretation came into the conversation. I explained to General Doolittle the twofold status of military personnel in NPIC.

(1) The current military personnel at NPIC which are being transferred as a paper exercise to DIA personnel roles and then will be transferred back to NPIC as the DOD contribution to the national P.I. effort.

(2) The DIA Departmental P.I. effort might be centered on NPIC's fifth floor where some 65,000 square feet of floor space were staked out for the military and where DIA could locate some 200 personnel if General Carroll so chose.

I pointed out certain in-house P.I. training programs and the expectation that our P.I. training will expand as more military come into the building.

d. Crisis Situations

General Doolittle wanted to know about our ability to handle more than one crisis at a time, and I again explained that I felt that we could do this judging from our past record of work and also assuming that the in-house DIA military departmental photo interpreters could be called upon to help handle part of the crises loads. After all, I couldn't see how DIA could withhold its P.I. assets for its departmental work if we were indeed involved in a real multiple crisis situation. They agreed with me.

3. The visitors were then escorted to a small briefing room where I proceeded to show them highlights of the last KH missions, the over-all coverage and Soviet missile distribution, samples of Laos and N. Vietnam photography, highlights

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In the coverage of the [redacted] and many other illustrations from our collection efforts of the past few months. During the course of the briefing Mr. Coyne asked many questions about how SAC feels about this or that point, were SAC's numbers any closer to our numbers of Soviet missiles, does SAC come to NPIC to sit down and discuss their differences, etc. To the latter I told him that when SAC nominates a new target as an ICBM site in writing, we respond to this nomination in writing and that as I saw it there was not a great deal to be achieved in meeting to discuss things generally, but it was better to have a specific subject. I indicated that SAC's interpreters were most welcome to come to visit NPIC anytime and that our personnel were always welcomed at SAC. Coyne seemed to be satisfied, generally dropped the SAC subject and asked to be excused about 12:15. General Doolittle stayed to review all of the graphics selected and then proceeded to have lunch with me at 1:15.

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4. Following lunch, General Doolittle took a complete tour of the NPIC facility guided by [redacted] NPIC Training Officer. This tour lasted until 4:00 p.m., and General Doolittle expressed real pleasure with his experiences at NPIC and his intent to get the other members of the Killian Committee over to have a similar orientation.

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ARTHUR C. LUNDAHL
Director

National Photographic Interpretation Center

Distribution:

- Cy 1 - DD/I
- 2 - Ex.Dir./DCI
- 3 - DD/R
- 4 - NPIC/OD
- 5 - NPIC/OD

NPIC/OD:ACL:mt [redacted] (25 Mar 63)

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TCS-1205-63/KH
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8 March 1963

MEMORANDUM FOR THE RECORD

SUBJECT: Briefing for the Killian Committee, 8 March 1963

1. Following [redacted] presentation on the current economic, political and military situation in Cuba, I proceeded about 1:00 P.M. to list for the Killian Committee the reconnaissance missions accomplished in recent months as follows:

A. Satellite Missions (T-101)

9043	-	17	Sept	1962	-	8,450'	of	film
9045	-	23	Sept	1962	-	12,944'	of	film
9046	-	5	Nov	1962	-	15,500'	of	film
9048	-	24	Nov	1962	-	14,720'	of	film
9050	-	15	Dec	1962	-	14,760'	of	film

65,650' Total film footage

B. Far East Missions

[redacted]	5	Dec	1962
[redacted]	9	Dec	1962
3006 Laos/North Vietnam	27	Dec	1962
[redacted]	7	Jan	1963
[redacted]	19	Jan	1963
[redacted]	22	Jan	1963
3215 Laos/North Vietnam	1	Mar	1963

62,972' Total film footage

[redacted]

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C. China Missions

GRC-126	China	8 Sept 1962
GRC-128	North Korea	6 Dec 1962
GRC-133	China	20 Dec 1962
GRC-134	China	24 Dec 1962
GRC-136	South China	28 Dec 1962
GRC-138	China	20 Jan 1963

 37,731 Total Film Footage
D. Cuba Missions1 July to 14 October 1962

11 Missions - 51,293 Film Footage

15 October 1962 to 6 March 1963

444 High and Low Level Missions - 653,175 Film Footage

2. Next, I offered a few general remarks about the missions over the USSR indicating the total ICBM Armas (17), Sites (75), number of Pads (150) with the indicated estimate that approximately 80 might be considered operational at the present time. I informed Dr. Killian that I had representative samples of the listed photography in the form of briefing boards showing selected intelligence highlights and that I was prepared to display and discuss all, some, or none depending on his wishes. (I was mindful of the late hour and the fact that the Committee looked tired and had not had lunch.)

3. The Chairman smiled and asked the members if they had questions.

A. Dr. Lond and others were interested in low versus high altitude photography on Cuba and I explained that low level photography was very carefully weighed before execution as the Cubans had weapons under their own control which might result in a shoot down. On the other hand, the high-altitude vehicle could probably not be shot down without SOVIET participation.

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B. Dr. Land suggested that we should develop a longer focal length camera to go into the high altitude vehicles to help us obtain the improved scale needed to answer current questions about incoming cargoes, departure of Soviet personnel and equipment, etc.

I agreed that a longer focal length camera could help provided you preserved or improved upon the resolution of the currently used 36 inch focal length B camera. I reminded the Committee of the "C" camera which had 240 inch focal length but was never used operationally because of its poor resolution and limited ground coverage.

C. Pat Coyne asked if Drone Photography could improve our resolution. I was doubtful but reserved judgment as I hadn't seen much of this kind of film. General Dealittle jumped in hand at this point to indicate that it would be a mistake to use drones and thereby give the Cubans a chance to knock down one form of our reconnaissance efforts and possibly get away with it. The General felt that this would be a bad precedent. The others seemed to be agreeing with General Dealittle and Coyne dropped the question.

D. Dr. Land indicated that he would be pushing for an improved long focal length camera for use at high altitudes. He indicated that this development, costing some hundreds of thousands of dollars, was nothing compared to the millions being spent on other collection gear.

E. While many engaged in cross talk about improved resolution, longer focal lengths, and the like I suggested to the Committee that the next big "quantum jump" in aerial reconnaissance could come from multi-band or spectral zonal photography--wherein the ground is photographed simultaneously through several separate windows of the electro magnetic spectrum. I indicated some of the interesting possibilities offered in the Infra Red regions and how temperature differences on the ground as small as .1°F were detectable in photos made by Texas Instruments. We noted in these IR photos where B-47's had been standing, where cows standing in fields showed up as bright spots on the pictures, where the hot water effluent from power houses into the adjacent cool lake waters could be traced out carefully, how buried pipes sometimes showed up in photos as a result of their being heated or cooled by fuels or other fluids passing through them, etc.

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The Committee appeared interested so I went on a bit further to indicate some work we currently have underway with the U. S. Geological Survey in Hawaii. I explained that I had not yet seen the multi-band reconnaissance photos but that one of my technical aides had indicated to me that hot spots near fumaroles and presently dormant volcanoes were recorded in IR photos. Also, ground caves where we had the geologist light up oil fires appeared to register as warmer spots on the film. Off the island of Oahu we also appear to be locating large fresh, cold water springs in the sea floor at a depth of some 100 feet. The cold water appeared to record as darker, doughnut shaped patches on the sea surface. (I didn't mention to the Committee that on first examination in the field it also appeared possible to distinguish between the images of warmer nuclear subs and the non-nuclear beside them at Oahu.)

Note: It is our intent to show Dr. Scoville and the DCI these IR photos from the Pacific as soon as they have been printed up, interpreted, annotated, etc.--probably within the next week to 10 days.

F. General Doolittle asked for the date of our last satellite photographic mission. I told him it was Mission 9050 dated 15 December 1962. He and Dr. Killian asked if we had been hurt by this 3 month gap in our missions. I said that I was probably not the one to whom this question should be addressed inasmuch as we have been very busy with Cuban photography, moving to a new building and handling a large backlog of work. The Intelligence Community would probably best answer the question. However, I offered a personal opinion that the Community might not have been hurt inasmuch as our cover of the USSR has been so substantial while the curve showing rate of discovery of new major intelligence targets seemed to be flattening off--i. e., we haven't found any new ICHM areas but we have added additional pads as previously reported ICHM areas. I suggested to the Chairman that there might be a trade off between periodicity of coverage and improved resolution--i. e., we frequently want to see a given target again and again because we haven't been able to see it recently in a sharp and clear fashion. Seeing it sharp and clear we might not have to go back to it for awhile until something new has been constructed. I indicated that high quality satellite surveillance-type photography with a ground resolution of 5 to 6 feet could be extremely useful to us. Beyond this, of course, there remains the yet unsolved problem of getting highest resolution 1 foot to 3 feet

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technical intelligence type satellite photography over a lesser number of critical intelligence targets.

G. It was now about 1:30 P. M. Dr. Killian asked the Committee Members if they wanted to see any of my photo briefing boards. None responded except for General Doolittle who said that he wanted to see the photography but there wasn't time. General Doolittle then speaking to Coyne and I simultaneously, indicated that he wanted to come to NFIC for at least a 3 hour session, with or without the other Committee Members, on the 18th or 20th of March (Pat Coyne will be setting up an appointment for such a briefing with us).

H. The Committee adjourned for a sandwich luncheon in the new room. Dr. Killian walked to one side with me and asked about our new building, saying the Committee had certainly pushed for this. I said that Mr. McCone had us into Building 213 on 1 January 1963, instead of August 1963, just as he had promised. We have a fine facility, plenty of space and good equipment. We are recruiting as rapidly as possible up to our T/O and at the same time running an in-house training program for Photographic Interpreters. Dr. Killian said that this was fine, that he was very happy and that he wanted to see Building 213 very soon. He asked if we could handle the photographic interpretation for more than one crisis at a time. I said yes in the trust that if they were truly crisis situations that the military might want to add more personnel as well to help us. I mentioned that DIA Director, General Carroll was still considering how many DOD personnel would be put into our plant. I didn't want to put words in General Carroll's mouth, but I had heard it suggested that General Carroll was currently favorably inclined to putting as many as 200 DOD personnel into our 5th floor area for departmental work.

I. The Chairman and the other Committee Members shook hands, thanked me for the briefing and indicated again that they would all like to visit Building 213 soon. I departed with [redacted] the courier and my bags of briefing boards about 1:40 as the Committee Members proceeded with their luncheon.

ARTHUR C. LUNDHALL
Director,

National Photographic Interpretation Center

Distribution:

Cys 1 & 2 - DCI
3 - Mr. Kirkpatrick
4 - Mr. Cline

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CHIEF OF STAFF
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TCS-1621-63-KH
11 June 1963

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MEMORANDUM FOR: Deputy Director (Intelligence)
SUBJECT: Semi-Annual Report to the Killian
Committee

Pursuant to your request, the subject paper in two
copies is forwarded herewith.

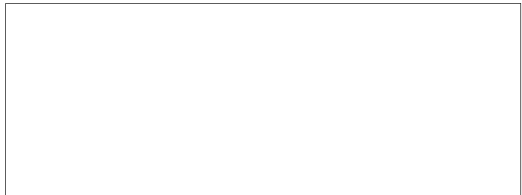
ARTHUR C. LUNDAHL
Director
National Photographic Interpretation Center

Distribution:

- Cy 1 - DD/I (w/2 copies of report)
- 2 - NPIC (Killian file w/1 copy of report)
- 3 - NPIC (chrono w/1 copy of report)

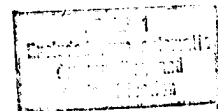
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Attachment to
TOS-1621-63-MH
11 June 1963

Report: Copy 4

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER
1 October 1962 thru 31 March 1963

1. ORGANIZATION AND MISSION

Construction of the new NPIC facility at Building 213, Naval Weapons Plant, was completed on schedule and the Center occupied the building on 1 January 1963. Containing better than 400,000 gross square feet of floor space this facility is equipped with the latest and most up-to-date photographic laboratory, computer and special environmental technical work space and will permit the Center to achieve its planned expansion in fulfillment of its national intelligence obligations.

The recruitment program is progressing according to schedule with [] persons on board as of 31 March 1963, including [] CIA personnel and [] military personnel. Approximately [] persons are planned in the building by the end of FY 63 and over [] by the end of FY 64.

During the past six months the Army, Navy and Air Force Photographic Interpretation Detachments to NPIC have been consolidated under DIA which now has the responsibility for providing the military personnel contributions to the Center. The military photographic interpreters have been, in turn, integrated with CIA photographic interpreters to form a single national Photographic Analysis Group. In addition, negotiations are underway with DIA to co-locate its departmental photographic interpretation activity in Building 213.

2. PHOTOGRAPHIC ACQUISITIONS

a. Cuba. During the reporting period the assets of the Center were directed primarily in support of the "Cuban Crisis". 481 missions were flown in carrying out surveillance activities; this coverage necessitated NPIC reading out approximately 1,040,000 linear feet of film. This step-up in photographic surveillance resulted after the initial identification of Soviet missiles and military build-up in Cuba by the National Photographic Interpretation Center photo interpreters. During this period it became necessary for the Center to operate on a 24-hour basis in order to satisfy the demands levied by the White House, DOD, State and CIA for rapid readout, briefing materials and substantive support to USIB Committees.

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 KEYHOLE MISSIONS
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Attachment to
 TCS-1621-63-KH

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From the middle of October until the end of the reporting period NPIC monitored the following items of significance: all known missile installations (MRBM, IREM, CRUISE, SALT); Soviet Military Camps (Remedios, Holquin, Artemesa, Santiago de los Vegas and Torrens); all major airfields with emphasis on fields where Beagles, Fishbeds and Farmers were stationed; major Cuban ports with emphasis on Soviet Bloc "Special Interest" ships. In addition to items listed above, each day's coverage was searched for any additional unreported items that would indicate Soviet build-up.

b. USSR. There were four successful KEYHOLE missions over the Soviet Union that netted approximately 60,000 linear feet of film. However, radiation and static discharge seriously degraded the interpretability of these missions. (Subsequently this problem has been resolved, and Mission 9053 which was flown in April 1963 is considered to be of the highest quality yet achieved.)

Major items of intelligence significance derived from these KEYHOLE missions during the reporting period are as follows: a total of eight new ICBM launch sites (two pads each) bringing the total to 148 launch pads; 32 new MR/IREM launch sites, 30 of which are the newly identified type IV hardened silo launch sites; the identification of the EMBA Missile Test Range; nuclear weapons testing at the Semipalatinsk Proving Grounds; continued construction activity at the Tomsk and Verkh-Nevyinsh AE Complex as recent activity at the Otar BW/CW grid; and deployment of BLINDER aircraft to Baranovich airfield.

c. Communist China. Seven missions were flown over China which acquired approximately 53,000 linear feet of film. All of these missions, with the exception of GRC-128, were flown entirely within the boundaries of Communist China; GRC-128 covered Northern China as well as North Korea.

Significant items of intelligence acquired from these missions are as follows: confirmation of the Lan Chou installation as a Gaseous Diffusion Plant; the discovery of a possible plutonium production facility at Pao Tou; identification of a static test facility at Peiping; and general confirmation of the order of battle intelligence from other sources.

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KEYHOLE GALLERY

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Attachment to
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d. North Korea. One mission was flown over this area during the reporting period (GRC-128, flown on 6 December 1962, also covered North China). This mission provided the first photographic coverage (excepting KEYHOLE) of North Korea since the end of the Korean conflict. Valuable information was obtained which enables the intelligence community to update the order of battle as well as assess the reconstruction of war damaged facilities. This coverage revealed the first indication of the introduction of FISHBED (MIG-21) aircraft into North Korea when two FISHBED aircraft and ten FISHBED shipping crates were observed at FUMCHANG Airfield. A naval facility with two "W" class submarines was identified at MAYANG-DO, an island off the East coast of North Korea.

e. Laos/North Vietnam. Three missions were flown during the period; those missions were read-out initially in the field at URPIC-Y (YOKOTA). The major items of significance that resulted from this coverage are as follows: an 11,000 ft. runway under construction at PHUC YEN; continued presence of Soviet type transport aircraft at HANOI/GIA LAM Airfield; continued improvement of military facilities, especially the construction of new permanent barracks replacing the older thatched roof types; confirmation of the construction of a road from Heng-La China, to Phong Saly, Laos; and general confirmation of order of battle intelligence as well as new information on airfield construction.

3. TECHNICAL DEVELOPMENT ITEMS

Fifty-four items are under development with twenty-seven different companies. Prime emphasis during this period has been directed toward the initiation of an on-line photographic measurement system. Secondly, emphasis has been on continued development activities in the area of image manipulation and enhancement.

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