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The Cuban Missile Crisis: A SIGINT Perspective

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Editor's Note: This manuscript was written by Donald Wigglesworth in the winter of 1984-85. While his description of the use of SIGINT in this crisis remains of real value to the cryptologic community, Dr. David Hatch of the Center for Cryptologic History has deleted some of Mr. Wigglesworth's comments concerning Soviet motivations in the crisis and Soviet-Cuban relations. The past decade has seen the declassification and release of copious amounts of information from both the U.S. and Soviet sides concerning the missile crisis, prompting a reevaluation of that period, and the indications are that this process of revelation and reevaluation will continue into the foreseeable future.

Against a background of increasing Soviet/American cold war tensions and diplomatic disputes, in January 1961 John F. Kennedy was inaugurated president of the United States. The following April he approved for implementation an aggressive CIA plan - one that was to cause him many difficulties. Its purpose was to overthrow the Castro regime in Cuba. The plan proposed the invasion of the southern coast of Cuba at Bahia de Cochinos (Bay of Pigs) using anti-Castro Cubans trained by CIA.

The failure of the Bay of Pigs project was tragic not only for the casualties and captured but also for the image of the new administration, particularly with reference to its relations with the Soviet Union. From a SIGINT viewpoint, however, it was not a total failure.

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An unfortunate consequence of the Bay of Pigs defeat was that it moved Castro even closer to Moscow, leading him to seek greater Soviet and Soviet Bloc support for his ailing regime. Cuba also badly needed economic as well as military aid; it had either to increase its exports or to secure outright gifts from other nations. A country with few natural resources, Cuba depended primarily on its sugar cane crop as a trade resource.² Because the United States, traditionally its biggest customer, had drastically curtailed its purchases of Cuban sugar, Castro had only the Soviet Union and its satellites to turn to for support.

To further complicate the Kennedy administration's foreign relations problems, the Bay of Pigs fiasco coincided with the Soviets' consistent efforts to conclude a treaty of peace with Germany, a peace that could include, in their view, the evacuation of that portion of Berlin still occupied by the British, French, and Americans. It was generally accepted at the time that Soviet premier Khrushchev's plan to provide extraordinary support to Cuba,

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to include defensive and offensive weapons and weapon systems of advanced design, was related to his desire to gain improved leverage diplomatically in his efforts to evict the Western Allies from West Berlin.³ Sources available over the past decade from the former Soviet Union now indicate that Khrushchev's decision to put offensive weapons into Cuba was unrelated to the Berlin crisis, but it was an attempt to alter at a stroke the strategic balance between the superpowers.

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Before 1961 intelligence interest in Cuba was insignificant; the island simply was not a threat to the security of the United States. Other than its sugar trade, it contributed little to the world economy. Its communist dictator was viewed as just another among many rightist and leftist autocrats who have dominated Central and South American politics for four centuries. Further, from a SIGINT viewpoint, such interest as did exist was

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[redacted]

Vint Hill Farms Station, Warrenton, Virginia (USM-1), [redacted] material to [redacted] About [redacted] intercept positions and [redacted] processing people were allocated to the Cuban problem.⁴

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Almost coincident with the Bay of Pigs venture were [redacted]

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in the spring of 1961 Soviet and Soviet Bloc radar emissions appeared in the signals environment.⁵ Marine Corps airborne reconnaissance first identified Soviet Firecan mobile fire control radars at two points in Cuba on 21 June. This radar was used in conjunction with either [redacted] antiaircraft guns. This advanced technology now being employed by the Cubans [redacted]

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[redacted] Unfortunately, these changes occurred at a time when consumer interest in Cuba had skyrocketed.⁶

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But the SIGINT community was [redacted] in a time of rapidly growing intelligence need. Given the worldwide political change because of decolonization and an increase in anti-Western feeling, it had become increasingly evident that in order to maintain an adequate collection posture around the world, NSA had to become flexible in seeking collection alternatives. The choices decided on were (1) [redacted]

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[redacted] and (3) to develop both airborne (Airborne Collection Reconnaissance Platforms - ACRPs) and seaborne (Technical Research Ships - TRSs) collection platforms. Plans along several of these lines had proceeded towards implementation when the Cuban priority intelligence requirement surfaced. These programs were in various stages of implementation when enhanced Cuban requirements were levied on the Agency.

Before NSA could determine the additional resources to be applied to Cuban targets, it

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tests were called for. In the summer and fall of 1960, some tests seeking ELINT signals had been made over Cuba via airborne collectors [redacted] Also in July 1960 [redacted] had circumnavigated the island testing the environment. [redacted] was the site of a similar test.⁷ However, these efforts all occurred before the development of the very high level of interest in Cuban intelligence by U.S. national policymakers.

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Following the Bay of Pigs invasion, hearability test efforts received priority attention by NSA. [redacted]

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[redacted] When the results of the test were evaluated in July 1962, it was determined that while the [redacted] were loud and clear, [redacted] signals were not.⁸

Concurrently with the development of hearability plans in the later months of 1961, the USS *Oxford*, the first of the seaborne intercept platforms, was readied for its shakedown cruise.⁹ It departed Norfolk on 26 September 1961 for Guantanamo Bay and the Caribbean area.

The *Oxford* (the former USS *Samuel Aitken*) was a WWII *Liberty*-type freighter that had been mothballed to the Wilmington, North Carolina, Reserve Fleet. The first of the SIGINT community's TRS seaborne program ships, during the previous two years it had been extensively rehabilitated and given a sophisticated collection package so that, fortunately, it was ready for operations at the time the Cuban requirement surfaced.

The *Oxford's* shakedown cruise in the Caribbean was a success. Not only did it identify a number of valuable technical improvements required for the more effective operation of the ship's electronic intercept systems (which were soon made), but it collected a substantial number of signals of interest. These included Russian [redacted] transmissions, as well as voice intercepts on more than [redacted] frequencies. Although the *Oxford* shakedown had shown that it was effective as a collector, its tasking had not been directed specifically towards Cuban targets. [redacted] operation had been successful against Cuban targets during the Bay of Pigs action; NSA planners wished to confirm that success. Therefore, another seaborne test was planned, with the covername Project [redacted]

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[redacted] collecting Cuban emissions.¹⁰ NSA intercept deployment managers were pleased. The results well substantiated the premise that seaborne collectors would be effective against the Cuban targets.¹¹

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In addition to the hearability tests to improve Cuban collection being made throughout 1961 and early 1962, there were also actions being taken within the NSA components at Fort Meade to meet the anticipated need to process, analyze and report on Cuban communications data.

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Although Cuba is geographically a close neighbor of the United States, current and detailed maps and charts were not available, especially in the volume required for daily use by analysts. NSA made a vigorous effort to expand its collections of maps, charts and gazetteers. They were obtained from several federal agencies and private organizations.

Also, because of the apparent growing need to provide analysts with the most detailed and current information on Cuban place-names, a project was started in October 1960 to compile an NSA gazetteer of Cuban places gathered from 300 maps and 700 hydrographic charts. By June 1962 this laborious task had resulted in the compiling of some 38,000 Cuban place-names, which were individually keypunched into a data file.¹⁴ This file was of great value to analysts later in their efforts to identify and validate the specific sites of the Soviet medium-range ballistic missiles (MRBMs) and surface-to-air missiles (SAMs) and other Soviet military installations in Cuba during the crisis.

Another task concerned the acquisition of Cuban open-source materials. One of the first anti-American actions taken by Castro immediately following his accession to power was the termination of American subscriptions to Cuban open-source publications. This action curtailed NSA's access to these documents, which had been useful to the analysts. By June 1961 NSA had arranged through the Office of Naval Intelligence for the acquisition of newspapers and other periodicals via Navy sources at the Guantanamo Bay Naval Base. Later, other sources were developed that maintained the flow of open-source information, to include some hard-to-get periodicals.¹⁵

As a result of all these hearability tests and in-house efforts, by the last quarter of 1961 NSA was in a position to make specific recommendations to the secretary of defense for a dramatic increase of SIGINT efforts against Cuban targets. In late November a key memorandum was forwarded by the director of NSA to the secretary of defense, subject: Improvement of Signals Intelligence (SIGINT) Effort [redacted]. In addition to summarizing the several actions taken by NSA by that date, the memorandum recommended that several additional actions be authorized. Of these, the most significant included directing the military services to expedite security clearances of individuals with Spanish-speaking skills; the immediate manning of [redacted] installed but unmanned

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intercept positions at [redacted] Vint Hill Farms Station (Virginia); diverting the USS *Oxford* from its scheduled [redacted] mission to Cuban tasks; and developing a coverage-drop plan (dropping coverage of targets of lower priority in order that those collection/processing/analysis assets could be applied to Cuban targets). By 7 December 1961 these recommendations were approved by the secretary, and the actions had been taken. Two weeks later, in a related action, the director authorized the immediate transfer of some [redacted] people in the PROD Organization (P) to the Latin American problem.

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NSA and the Cryptologic Agencies were not the only organizations preparing for increased efforts on Cuban targets. CIA and related intelligence agencies also were greatly expanding their activities in that direction. By the end of 1961 CIA had increased its U-2 overflights of the island, a source that ultimately provided key information to the president and his advisors. CIA also started a program to fully and yet most cautiously exploit information gathered from Cuban refugees. This source, in the months that followed, provided enormous files of data, much of which was of doubtful value.

By early 1962 the several implementing actions in the intelligence community's plan for augmented intelligence-gathering from Cuba were moving forward with growing momentum.¹⁷

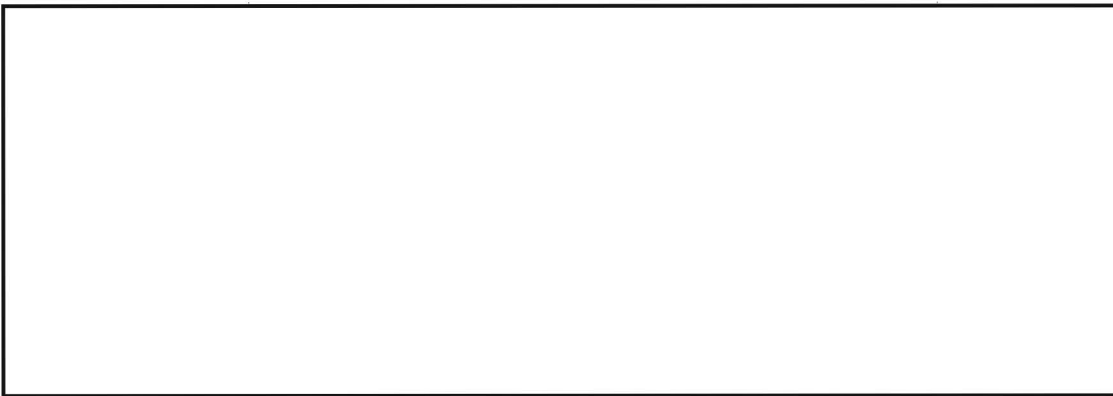
In March 1962, Mr. John McCone, director of Central Intelligence, was able to forward to Mr. McGeorge Bundy, the president's advisor for national security affairs at the White House, a list of some sixteen steps taken to provide intelligence support concerning Cuba. The report to the White House included a statement that "... Extensive discussions have been held with NSA personnel that should lead to a substantial increase in the support given by NSA to various DDI (CIA's deputy director for Intelligence) components concerned with Cuba."¹⁸

In recalling the several actions through 1960-61 of the intelligence community to improve its ability to monitor and report on the so-called Cuban "build-up," it should be remembered that the enormous build-up support being provided Castro was not exclusively military or paramilitary equipment and supplies; it included significant economic support. That support was not provided exclusively by the Soviet Union. As

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Despite all these dramatic actions throughout 1961 and 1962 by the Soviets and their satellites to provide increased aid to Cuba, the big decision - to provide sophisticated offensive weapons to Cuba - apparently was not made until sometime in the spring or summer of 1962.

This decision should be viewed in the context of the public statements by Khrushchev on 2 January 1961: "What is more, they [the Americans] are trying to present the case as though rocket bases of the Soviet Union are being set up or are already established in Cuba. It is well known that this is foul slander. There are no Soviet military bases in Cuba. . . ." After the Bay of Pigs fiasco, Khrushchev again reassured the president in a note of April 1962: "As for the Soviet Union we have stated on many occasions and I am stating again that our government does not seek any advantages or privileges in Cuba. We do not have any bases in Cuba, and we do not intend to establish any."²⁰

Whatever the intent of Khrushchev's statements, the fact is that SAMs were soon being boxed for shipment to Cuba, and even more sophisticated offensive weapons, MRBMs, were soon being prepared for shipment.

The shipment, unloading, land transport, installation, and command of the missiles sent to Cuba remained entirely under tight Soviet control. At the proposed missile sites, Cuban farmers were arbitrarily evicted from their lands. Soviet troops guarded the missile construction areas around the clock - *from the Cubans*. The Cubans were also excluded from the dock areas. All this effort was to ensure the security of the operation, to ensure that the Americans were unaware of what was going on, that is at least until the MRBMs were in place and ready to provide a here-and-now threat to the United States. Credit must be given to the Soviets for having been almost successful in this difficult task despite the zealous efforts of the American intelligence establishment.²¹

In the spring and summer of 1962, while the Soviet military was clandestinely installing offensive weapons and their related support systems in Cuba, the American intelligence establishment, armed with high-level authorizations, was implementing several programs to enhance its intelligence collection and processing capability. At NSA, a number of "Cuban Augmentation" tasks were accomplished. For example, in March the Agency hired and cleared some people (in itself a heroic accomplishment!) who had

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Spanish and Portuguese language skills. With this additional staffing, an improved capability was now available: [redacted]

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To transcribe the expected increase in traffic intercepted from Cuban [redacted]

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[redacted] NSA organized Project [redacted] - so-named because it was to be housed in an abandoned Fort Meade hospital building. [redacted] started business on 2 May 1962 using [redacted] semicleared Spanish voice transcribers on-loan from the U.S. Air Force Security Service (USAFSS) and USASA. Eventually, by mid-August, [redacted] reached a maximum personnel strength of [redacted] transcribers.²³ Efforts were made to complete the clearance process for personnel sent to [redacted] many of these linguists received their clearances in time to provide support during the crisis and post-crisis periods.

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To supplement the existing positions at the various fixed collection sites, e.g., [redacted]

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[redacted] strenuous efforts were made to improve and expand their technical capabilities. At NSA-Fort Meade, a van was, in a matter of weeks, equipped

[redacted]

As detailed earlier, the voyages of the USS [redacted] *Oxford* and [redacted] had all proved that shipborne intercept platforms were very productive in collecting a variety of [redacted] signals, especially [redacted] signals that emanated from Cuba and that were not hearable from fixed stations. By May, two related recommendations with respect to shipborne intercept, which had been made to Deputy Secretary of Defense Roswell Gilpatric, were approved. One proposed the temporary diversion of the *Oxford* from its scheduled [redacted] targets in order that it could be tasked to collect Cuban signals, especially [redacted] signals. The other proposed that NSA lease a *Liberty* ship from the Navy's Military Sea Transportation Service (MSTS), install on a priority basis an appropriate intercept package, and get the ship on station as soon as possible. In response to the first recommendation, the *Oxford* was equipped by NSA with two additional [redacted] positions. In the months that followed, these additional positions provided NSA with most of the data collected from Castro's [redacted] system.²⁵

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In response to the second recommendation to Gilpatric, NSA's collection facilities office proceeded to negotiate with MSTS for a second ship - the USNS *Muller*.

The previous July (1961) NSA had been tasked by the DCI to prepare proposals for additional [redacted] coverage beyond that which might be provided by the

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Oxford. Because of the extended lead time and high cost required to ready another ship for a SIGINT mission similar to the *Oxford's*, as an alternative it recommended the leasing of a WWII mothballed *Liberty* ship from MSTS on an annual contractual basis. The old ship was refurbished and equipped by NSA and its electronics subcontractors for the [] mission. In the rehabilitation effort, NSA used the "quick and dirty" approach to ship modifications and electronic installation rather than the sophisticated, orderly, professionally finished and time-consuming approach used by the Navy for the *Oxford*. The result was that the *Valdez* was able to set sail only five months later, in November 1961. While its system installation was less than first class (its communications system was held to the mast with baling wire), the ship did get on station in record time, and at a very cheap price (\$3.3 million in contrast to \$13.3 million for the *Oxford*). Thus, when the Cuban requirement developed, NSA had had some experience with the outfitting of a *Liberty* ship for its seaborne intercept missions. Dollars and valuable time could be saved by using this approach.

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As with the *Valdez*, the *Muller* was to be leased from MSTS on a per diem basis (about \$3,000 per day), operated by a civilian crew and captained by a civilian master. Routine operational and technical control of the ships was to be the responsibility of DIRNSA (actually performed by the old C Group based on the recommendations of the tasking groups, A Group and G Group). The manpower in the "Research Operations Detachment" aboard each ship was to be provided by U.S. Naval Security Group (USNSG) and USASA (the *Muller*, once it became operational, had about [] civilians operating the ship and [] military staffing the "Mil Det").

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Based on NSA's order, in the summer of 1962, as a matter of priority, MSTS contracted with the Higgins Shipyard in New Orleans to de-mothball and rehabilitate the *Muller*. NSA engineers and technicians had the task of installing the electronic collection packages as a matter of utmost urgency. The priority for Cuban collection was felt in all areas of operation at that time. During the latter months of the summer, as the Cuban build-up caused increasing concern in high government circles and while work on the ship progressed at an agonizingly slow pace in correcting serious deficiencies in the *Muller's* mechanical systems, the *Oxford* went about its new collection tasks in the Caribbean Sea circumnavigating Cuba.²⁸

All these "Cuban Augmentation" efforts were not exclusively confined to NSA, NSG and ASA. The Air Force Security Service also had a significant role to play. In the spring of 1962, NSA requested an in-flight hearability test be made over the [] area using an ACRP aircraft. In June a STRAWBRIDGE (C-130B) aircraft was obtained to perform the test. It collected Cuban voice communications. Those tape recordings made during the flight were delivered to USAFSS Headquarters in San Antonio for processing and later use in transcriber training. Subsequently, an ACRP C-130A aircraft was obtained from [] and in the latter days of June, [] This aircraft carried [] intercept positions. Later an additional ACRP C-130B was flown in [] Maintenance crews, intercept operators and transcriber airmen, especially those with Spanish language skills, were selected from various USAFSS units

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around the world and flown to [redacted] Missions with the ACRPs operated from [redacted]

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By the end of August, the ACRP support organization of USAFSS [redacted] was in operation as a "provisional detachment." It achieved permanent status by October 1962. It was the [redacted] that published the alarming product report on 10 October, based on data collected during the 9 October ACRP mission. The report noted that data collected from the Cuban Air Force on the 9th differed significantly from those collected the previous June. [redacted]

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By the end of summer 1962, NSA's expansion plans for Cuban collection, processing, analysis and reporting were moving forward at an increasing pace. One has only to note that in April 1960, when there was little intelligence interest in Cuba, the total number of analytic and reporting personnel working on the Cuban problem totaled only [redacted] people. By April 1961 (the month of the Bay of Pigs invasion), the NSA complement had increased to [redacted]. During the remaining months of 1961, as the Cuban military buildup caught the attention of top government authorities, there was a gradual increase in this number until it reached [redacted] by April 1962. There followed a most rapid escalation of these capabilities as presidential interest became centered on Cuba. By 14 October 1962, the day before intelligence verified that MRBMs were in fact being installed in Cuba, there were [redacted] people working directly on the Cuban problem in NSA. Further, as outlined above, throughout the eighteen months immediately preceding the crisis, NSA performed a variety of hearability tests and took a number of direct or related follow-up actions to expand dramatically the capabilities of the SIGINT system [redacted]

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It should be noted that this coverage did not include the intercept capabilities of the USNS *Muller*. Because of unforeseen mechanical difficulties in preparing the ship for sea duty, it was not able to be on-station at the time of the October crisis. The job encountered so many problems that a SIGINT package had to be installed on the [redacted] as a temporary measure in order that the *Oxford*, which badly needed some shipyard repairs, could be taken off-station the following March 1963. The *Muller's* on-station SIGINT service didn't begin until April 1963 - six months after the crisis.²⁹

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During the months following the Bay of Pigs invasion, with all these efforts to increase the SIGINT system's capabilities to provide Cuban communications and electronic intelligence and to enhance similar efforts by CIA to gather Cuban information through its sources, the question inevitably arises as to the ultimate success of these exhausting and costly endeavors. It is an accepted fact in open-source literature that President Kennedy and other senior authorities in the government, i.e., John A. McCone, director of Central Intelligence, Dean Rusk, secretary of state, Robert S. McNamara, secretary of defense, McGeorge Bundy, presidential advisor for national security affairs, and others,

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had no verifiable knowledge in the summer of 1962 that Castro was allowing Khrushchev to install medium range ballistic missiles in Cuba.

It is frequently noted that those authorities in CIA who were responsible for preparing the national intelligence estimates were using conventional wisdom in their evaluation of such a prospect. It was their accepted view that Soviet past performance, good logic and reason did not at all suggest that Khrushchev would take such provocative action. In support of that view, Khrushchev had provided periodic reassurances to the United States, in the strongest possible language, that nothing of the sort would be done.

Robert Kennedy, in his account of the Cuban Missile Crisis, quotes a conversation he had with Soviet ambassador Dobrynin in Washington in September 1962 (about four weeks before the missiles were photographed by a U-2): "He told me I should not be concerned, for he was instructed by Soviet Chairman Nikita S. Khrushchev to assure President Kennedy that there would be no ground-to-ground missiles or offensive weapons placed in Cuba." Also, on 11 September 1962 Moscow authorities publicly announced that there was no need for nuclear missiles to be transferred to any country outside of the Soviet Union, including Cuba.³⁰

In a discussion of the Soviets' extraordinary security measures, a report of the National Indications Center of 15 July 1963 stated, "It is noteworthy, even for the USSR, that *there was not a single known leak* through the Soviet or Satellite channels of the true nature of Soviet shipments to Cuba, that security restrictions on the movement of equipment and troops into and through Soviet ports were so rigid that *no information has ever been obtained on them*, and that, although thousands of Soviet troops were deployed in Cuba, *there was no discernible reflection* of this in communications and *no leaks through operator chatter*, except for a few references in mid-September to a call for military 'volunteers' for Cuba."³¹

Despite the lack of hard evidence, John McCone, the recently appointed DCI, had misgivings about the Cuban military buildup, and he opined that it may have an offensive purpose. This was contrary to the opinions of his most experienced intelligence professionals. McCone believed the Soviets were up to something more significant other than merely providing improved conventional weaponry to the Cubans in order that they might fend off another possible invasion similar to the "Bay of Pigs." His reasoning seemed simplistic to his advisors, but it was eminently pragmatic, for it was based on simple geography. For the first time, he reasoned, the Soviets had access to a piece of real estate within easy reach of the United States.³² As it turned out, McCone's gut feeling and logic proved correct. On 15 October, McCone was at the funeral of his stepson in Seattle when he received a long distance call from his CIA office in Washington. The caller told him that he had been correct, and everyone else in CIA was wrong. CIA finally had collected hard evidence that the Soviets, contrary to all the official and unofficial assurances by Khrushchev, were busily installing a number of MRBMs at various sites on the island. There was no doubt about it. Hard evidence was in hand.³³

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THE THIRTEEN DAYS OF CRISIS

Aug. 29, 1962	U-2 fly-over of western Cuba produced the first photographic evidence of SAMs installed in position. Eight SAM sites identified.
Sep. 4, 1962	JFK aware of arrival in Cuba of SAMs
Sep. 8-15, 1962	MRBMs moved into Cuban ports
Oct. 14, 1962	U-2 flight photographed Cuban missile installations
Oct. 15, 1962	Discussion of readiness measures
Oct. 16, 1962	Irrefutable evidence of missiles in Cuba - U-2 photos
Oct. 22, 1962	JFK's speech to the nation that he was imposing a "quarantine"
Oct. 23, 1962	"Interdiction Proclamation"
Oct. 26, 1962	First message from Khrushchev
Oct. 27, 1962	U-2 shot down over Cuba - "Peak of Crisis"
Oct. 28, 1962	Khrushchev's compliance with U.S. demands
Nov. 10, 1962	Completion of withdrawal of 42 missiles
Nov. 19, 1962	Castro agreed to removal of bombers (IL-28s)

The hard evidence had come from photographic intelligence obtained by U-2 reconnaissance missions over Cuba. [Ed. note: The background of the reconnaissance missions over Cuba is a fascinating but complicated one. It is ably treated in Dino A. Brugioni, *Eyeball to Eyeball: The Inside Story of the Cuban Missile Crisis* (New York: Random House, 1991). Mr. Brugioni, as a senior official of the National Photographic Interpretation Center, was a participant in the missile crisis. His account blends his own recollections, open-source literature, the memories of other participants, and recently declassified documents.] The aerial photographs obtained on the flight of 14 October 1962 provided the conclusive evidence that was ultimately shown to the president and his advisors.³⁴ It was that information and intelligence gathered from subsequent U-2 aerial photographs of the various MRBM sites then under various stages of construction on which the president had to develop the U.S. policy and response.

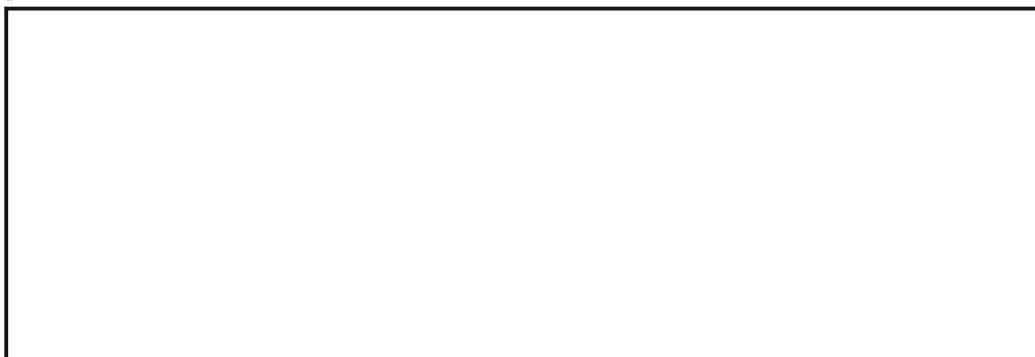
Based on this evidence, the Executive Committee (EXCOMM), composed of the president, National Security Council members, and other senior advisers, had to struggle

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in all-day and late-hour sessions during the next thirteen days to develop for him an appropriate diplomatic approach to Khrushchev. The U.S. action, subsequently developed, would, they hoped, avoid war and yet remove the Soviets' nuclear threat to the United States - a threat only ninety miles from the U.S. coast. It was a complicated problem involving not only the Cuban missiles but the U.S. presence in Berlin and the U.S. missiles in Turkey.

In retrospect, the issue of importance as it relates to this crisis is the intelligence community's ability, or lack of it, to recognize at an early date the crisis indicators. Why was the missile threat not recognized in July or August? The community would respond that there were a variety of indicators collected up to 14 October 1962 through SIGINT and CIA intelligence efforts. Some indicators suggested something of the nature of the Khrushchev venture; others did not. But none of them provided any conclusive evidence of the sort appropriate for the president to take affirmative action. Some examples will illustrate:

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- CIA contacts picked up comments by a Castro aide that "We will fight to the death and perhaps we can win because we have everything including atomic weapons." In fact, the truthfulness of that statement is in doubt. The Soviets kept all of the MRBMs under their control at all times. Cubans were not allowed on the sites. And there is some doubt that any nuclear warheads for the missiles ever arrived in Cuba.³⁷
- Plain language Russian voice shipping communications intercepts by SIGINT collectors indicated large increases in the number of Soviet cargo ships involved in the Cuban trade, but the mention of their specific cargoes was conspicuously absent, and the schedules were obviously falsified.³⁸
- SIGINT intercepts on a variety of links detailed items being shipped to Cuba from Soviet Bloc countries, e.g., Poland, [redacted] Hungary, Romania, Czechoslovakia, etc., but none of the items suggested anything more than economic aid or conventional weaponry.

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- Aerial photography at the end of August showed eight SAMs had been installed by the Soviets.⁴¹

The current best guess is that MRBMs did not start to arrive in Cuba until 7 September 1962. Some analysts believe that the president's order to mobilize 150,000 reservists led the Soviets to believe that the U.S. intelligence establishment had just discovered the missiles, which probably had just arrived in Cuba. Therefore, in response



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The missiles' presence in Cuba was subsequently verified by U-2 on 14 October.⁴³

The volume of SIGINT produced during the eighteen months preceding the thirteen-day October 1962 crisis was enormous. Interpreting these data in a manner that would produce a conclusion that missiles were in Cuba is not so easy. To get a feel for the kinds of information that SIGINT was producing, one should skim the following sampling of significant product reports:

30 April 1962

"ELINT surveillance of Cuba during the past six months revealed a steady increase in number of Soviet radars operating on the island." Report contained estimate of number of radars and type located in Cuba.⁴⁴

2 May 1962

"Dry cargo shipment to and from Cuba in Soviet ships"; reported 43 voyages carrying 228,000 tons of cargo in first quarter.⁴⁵

16 May 1962



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17 May 1962

"Additional items of Soviet aid to Cuba include 5,150 trucks, 850 tractors, 30 refrigerator trucks, 57 excavators, 42,000 tons of bars and food products."⁴⁷

29 May 1962

Recapped first uses of Soviet communications procedures for radio and PVO reporting for pilot reporting, pilot suffixes, callwords, introduction of MiG aircraft.⁴⁸

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16 June 1962

"First ELINT evidence of presence of Soviet airborne intercept radar in Cuba."⁴⁹

22 June 1962

Estimate of number and types of Soviet radars operating in Cuba.⁵⁰

24 June 1962

Listed five ships carrying at least 3,335 Soviet passengers en route to Cuba.⁵¹

31 June 1962

Indicated Soviet vessels in Cuba trade were making false port declarations, declaring less than known cargo carrying capacity. Also noted absence of [redacted] message, which normally provide cargo information.⁵²

13 August 1962

[redacted]

17 August 1962

ELINT intercepts of Soviet antiaircraft fire control radar.⁵⁴

23 August 1962

Noted continued increase in number of ships en route to Cuba; total 57 since mid-July. Some ships on second voyage.⁵⁵

24 August 1962

"High volume of messages between Moscow and Havana."⁵⁶

5 September 1962

[redacted]

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13 September 1962

Dry cargo shipments to and from Cuba in Soviet ships; 48 voyages carrying 253,000 tons; listed military cargo.⁵⁸

14 September 1962

[redacted]

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15 September 1962

"First intercept of Spoon Rest missile-associated radar in Cuba."⁶⁰

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18 September 1962

[Redacted]

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20 September 1962

[Redacted]

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(b)(3)-18 USC 798
(b)(3)-P.L. 86-36

21 September 1962

"Suspected operation of Soviet IFF system in Cuba confirmed by intercept of signal from Soviet airborne transponder."⁶⁵

23 September 1962

[Redacted]

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25 September - 2, 11, 19 October 1962

"Report total cargo shipments to Cuba in Soviet ships of 151 voyages carrying 1,099,563 tons of military and technical equipment."⁶⁶

5 October 1962

"Cuban operators apparently have a small Russian vocabulary in order to converse with Soviet counterparts."⁶⁶

10 October 1962

"First indication the Soviet [Redacted] grid system, similar to that used by Soviet Bloc Air Defense personnel prior to March 1962, was in use in Cuba."⁶⁷

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11 October 1962

[Redacted]

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That the Soviets were highly sensitive to the need for communications security, particularly from August through October 1962, is indicated by the interception of a

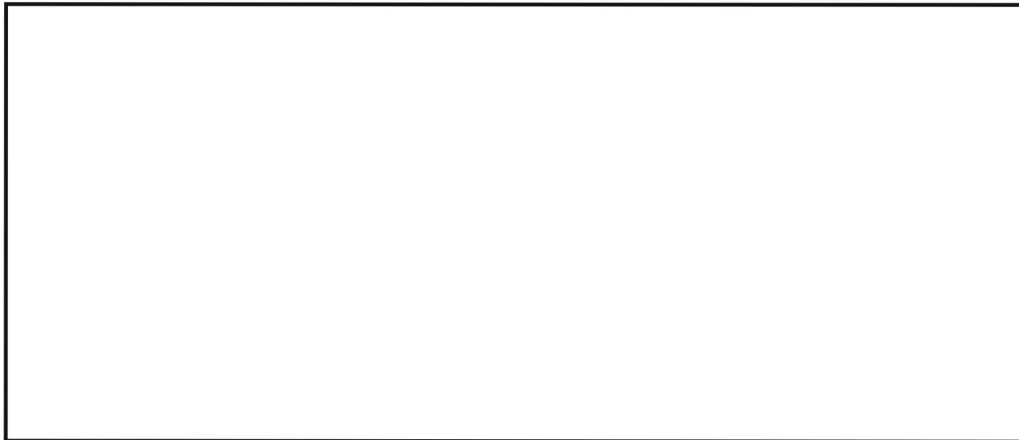
[Redacted]

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These indicators might have provided evidence of Khrushchev's provocative intentions. However, each of these pieces of information could also have been reasonably explained in view of the general economic and technical help being provided to Cuba at that time by Russia and its satellites. 

 The information need not have been associated with the missile installation project of the Soviets. SIGINT did provide enormous elements of intelligence, but it did not provide that key-bit of information that proved beyond any shadow of doubt that missiles were being installed on the island.

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The period of the Cuban Missile Crisis is usually defined as the thirteen days of 16 to 28 October 1962. The actual crisis started on Tuesday the 16th, when the president was presented with irrefutable evidence of the presence of MRBMs in Cuba. It was on the 28th that Khrushchev finally agreed to remove them from Cuba. It was during these agonizing days, when Kennedy and the members of his EXCOMM struggled to develop effective courses of action that would avoid a nuclear war, that reliance was placed on the intelligence-producing agencies for indicators as to what the Soviets, Cubans, Soviet satellites and the rest of the nations of the world were thinking and doing.

To monitor the feverish missile site construction progress during those two weeks in October, the president authorized further U-2 overflights of Cuba. In doing so he was concerned lest the newly installed Russian SAMs be used to shoot them down. (In fact, Major Rudolph Anderson's U-2 was shot down by a SAM on the 27th - the day before Khrushchev acceded to the president's conditions.) During any crisis, communications volumes escalate throughout the world, and they did enormously at that time. The SIGINT system's capabilities were stretched to its limits. But it did provide the vital data that gave the U.S. decision-makers some feel for Soviet responses to the statements of the U.S.

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position during that period. Also, it provided information on the reactions of other nations - friend, uncommitted, and potential enemy.

In order to get an idea of the magnitude of NSA's task, it is worth noting that up to 14 October NSA had received from USN-850 (USS *Oxford*) and USA-520 (ACRPs) some [redacted]

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[redacted] From these data, analysts had to select the key information of intelligence value. With these kinds of volumes before 15 October, it is little wonder that the NSA and [redacted] transcribers were very busy people, especially during the subsequent two weeks of the crisis.⁷⁰

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[redacted] communications for the Soviet [redacted] Naval Force, and it also noted that Soviet ground forces were [redacted]

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[redacted] It is assumed that the Soviets realized that the U-2 that overflew the San Cristobal MRBM site the day before (14 October) would have finally blown the best of the Soviets' security measures, and of course it did.⁷¹

When the president had first become aware of the missiles on Tuesday, 16 October, and had convened the EXCOMM, he gave orders for the maintenance of very tight security within the confines of the EXCOMM with regard to the crisis. He did not open the issue to departmental discussion or to the public until the following Monday, 22 October. However, SIGINT reported [redacted]

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[redacted] on the 16th, 20th, and 21st. SIGINT reported the [redacted]

[redacted] A charting of the Soviet communications volumes before, during and following the two weeks of crisis shows ups and downs that are similar to stock market charts before, during and after the October 1929 "crash."⁷² SIGINT reported [redacted]

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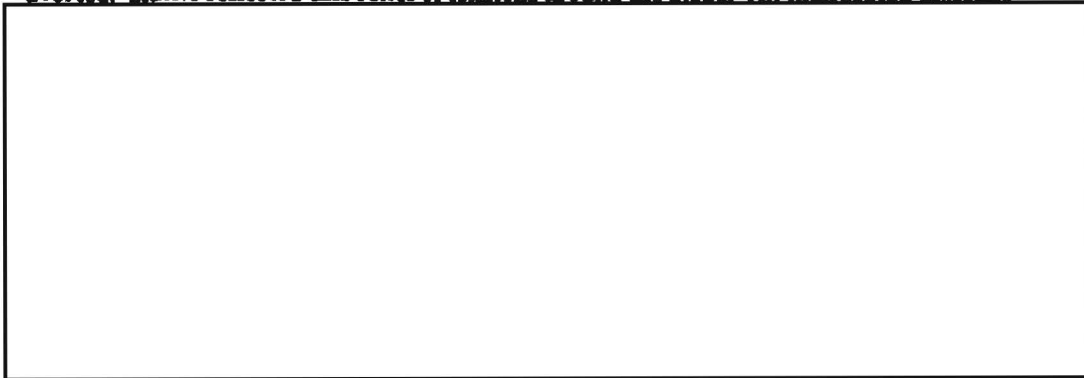
The two weeks of 16 through 28 October were ones in which the world was on the brink of nuclear war. The situation called for the most carefully considered diplomatic actions. The highlights of those weeks were the president's convening of the EXCOMM on Tuesday the 16th; his speech to the nation on Monday the 22d; his Proclamation of Interdiction on Tuesday the 23d; and, following several official and nonofficial messages from the Soviet government and Khrushchev (which were not necessarily consistent), the welcomed

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message from Khrushchev on the 28th in which the Soviets finally agreed to remove the missiles from Cuba. In the days that followed occurred what might be called the world's greatest "sigh of relief." Not only had the real possibility of a nuclear holocaust been avoided, but Khrushchev's objectives had been frustrated: he did not succeed in forcing the Western Allies out of Berlin; he did not force a treaty of peace with Germany counter to the purposes of the democracies; he did not gain that leverage over the United States that apparently was the broad purpose of the whole Cuban missile effort.

The fact is that the U.S. policies did cause a significant amount of friction between the Soviet government and the Castro regime. The purpose of the president and his EXCOMM was to formulate a plan that would remove the missile threat to the U.S. and at the same time provide the Soviets with some face-saving options for their propaganda purposes. Most would agree that those objectives were reached. The choices selected by the U.S. government to achieve these goals are still being debated by informed people who held positions of high responsibility at that time. Regardless of what might have happened, the choice of options and their implementation did, in fact, work. Another world war was averted. SIGINT reflected this relief of tensions around the globe. An interceded message



That bit of SIGINT information, insignificant as it may seem in isolation, well describes the satisfactory conclusion of the most serious world crisis since the close of WWII.

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Notes

1. (U) NSA report to the Killian Board, "Review of NSA Intelligence Activities Relating to the Cuban Arms Build-up 14 April - 14 October 1962," Copy #5, November 1962, (draft report), 28. Hereafter "Killian Board." (TSC); NSA internal document, "Budget Justification FY-1963/69 - Subelement #25," 5 March 1962, 18. Hereafter "Budget." (TSC)

2. (U) NSA report, "CUBA: A SIGINT WRAP-UP," 3/0 [redacted] R04-62, 9 February 1962, 17. Hereafter "Wrap-up." (TSC)

[redacted]
National Indications Center, "The Soviet Bloc Armed Forces and the Cuban Crisis - A Discussion of Readiness Measures." Washington, D.C. [redacted] 15 July 1963. 1, 38, para. 25. Hereafter "Soviet Bloc Armed Forces."

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4. (C) "Budget," 1. (TSC); "Killian Board," 25. (TSC)

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5. (S) USIB, "The Military Build-up in Cuba - A Chronology of Significant Events Since 20 January 1961 and Major Bloc Arms Shipments to Cuba," #07595-61-D, 11 July 1961, 8. (TSC)
6. (U) "Killian Board," 1. (TSC)
7. (S) Ibid., 27 and 28. (TSC)
8. (S) "Killian Board," 29. (TSC)
9. (S) George F. Howe, *Technical Research Ships 1966-1969*, United States Cryptologic History Special Series #2, October 1974, 3. Hereafter "Howe."
10. (S) Ibid., 7. (TS)
11. (S) "Killian Board," 30. (TS)
12. (C) Ibid., 6. (TSC)
13. (C) Ibid. (TSC)
14. (C) Ibid., 7. (TSC)
15. (C) Ibid., 12. (TSC)
16. (C) NSA Report to the Killian Board (FINAL), "National Security Agency Contribution to the Review of Intelligence Activities Relating to the Cuban Arms Build-up During the Period 14 April to 14 October, 1962," 12 December 1962, 7-9. Hereafter "Killian Board (FINAL)." (TSC)
17. (S) Frank A. Sieverts, "The Cuban Crisis, 1962," JFK Library, #810475, undated, 7-9. (TS EYES ONLY)
18. (S) CIA report, "Intelligence Support on Cuba," For DDI, from Asst to DDI for Planning, 6 March 1962, with cover note "For Mr. McGeorge Bundy, from the Asst DDI (Planning)," 14 March 1962, initialed by Mr. Bundy, 2. (TSC)
19. (U) "Wrap-up," 6, 12, 14, 16 (TSC)
20. (U) Elie Abel, *The Missile Crisis* (New York: J.B. Lippincott Company, 1966), 15-16. (U)
21. (S) Sieverts, 7-8; Abel, 16. (U); James Daniel and John G. Bubbel, *Strike in the West: The Complete Story of the Cuban Crisis* (New York: Holt Rinehart and Winston, 1963), 4. (U)
22. (U) "Killian Board," 22-23. (TSC)
23. (S) Ibid., 34-35, 168 (TSC)
24. (S) Ibid., 30-31. (TSC)
25. (S) Ibid., 31-32. (TSC)
26. (U) "Howe," 5-7. (TS NOFORN)
27. (S) "Killian Board," 33-34, 164-66 (TSC)
28. (C) "Killian Board (FINAL)," 11 (TSC)
29. (C) Howe, 8. (TS)
30. (U) Robert F. Kennedy, *Thirteen Days - A Memoir of the Cuban Missile Crisis* (New York: W.V. Norton & Co., 1969), 27. (U)
31. (S) "Soviet Bloc Armed Forces," 34
32. (U) Abel, 15-16. (U)
33. (U) Ibid., 29-30. (U)
34. (S) Sieverts, 11. (TS EYES ONLY)
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36. (U) Sieverts, 9 (TS EYES ONLY)

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37. (C) Ibid., 13 (TS EYES ONLY); NSA report, "SIGINT Reflections of Soviet/Satellite Pertaining to the 'Cuban Crisis', 1962," 3/0 [redacted] R318-63, 30 December 1963, 1944. Hereafter "SIGINT Reflections." (TSC)

38. (U) "Killian Board," 45 (TSC)

39. (U) Ibid., 73. (TSC)

40. (U) "Soviet Bloc Armed Forces," 20, [redacted]

41. (U) Sieverta, 12. (TS EYES ONLY)

42. (U) "SIGINT Reflections," 1. (TSC)

43. (U) Sieverta, 14. (TS EYES ONLY)

44. (U) Howe, J-1. (TSC)

45. (U) Ibid. (TSC)

46. (U) Ibid., J-2. (TSC)

47. (U) Ibid. (TSC)

48. (U) Ibid., J-3. (TSC)

49. (U) Ibid. (TSC)

50. (U) Ibid., J-4. (TSC)

51. (U) Ibid., J-5. (TSC)

52. (U) Ibid. (TSC)

53. (U) Ibid., J-6. (TSC)

54. (U) Ibid. (TSC)

55. (U) Ibid., J-7. (TSC)

56. (U) Ibid. (TSC)

57. (U) Ibid., J-8. (TSC)

58. (U) Ibid. (TSC)

59. (U) Ibid., J-11. (TSC)

60. (U) Ibid., (TSC)

61. (U) Ibid. (TSC)

62. (U) Ibid. (TSC)

63. (U) Ibid., J-12. (TSC)

64. (U) Ibid., J-13. (TSC)

65. (U) Ibid., J-14. (TSC)

66. (U) Ibid., J-15. (TSC)

67. (U) Ibid., J-16. (TSC)

68. (U) Ibid., J-A-55. (TSC)

69. (U) "Soviet Bloc Armed Forces," 35, [redacted]

70. (U) "Killian Board," 172. (TSC)

71. (U) "SIGINT Reflections," 2. (TSC)

72. (U) Ibid., 4. (TSC)

73. (U) Ibid., Appendix III, 1-13. (TSC)

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74. (U) Ibid., 53. (TSC)

75. (U) Ibid., 22-30. (TSC)

76. (U) Ibid., 39B. (TSC)

77. (U) Ibid., 11B. (TSC)

78. (U) Ibid., 40B. (TSC)

79. (U) Ibid., 40B. (TSC)

80. (S) NSA report (DRAFT), "Preliminary Survey of SIGINT Indications of Soviet Armed Services [redacted] During the 'Cuban Crisis', September Through November 1962," 5 April 1963, 8. (TSC)

81. (U) "SIGINT Reflections," 30B. (TSC)

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(FOUO) Mr. Wigglesworth served almost thirty years with NSA, during which he worked in programming, budgeting, and management organizations. Following his retirement, he worked part time for two years in the Center for Cryptologic History. After three years in the Army Air Forces in WWII, Mr. Wigglesworth [redacted]

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