

NSA and the Cuban Missile Crisis



This publication is a product of the National Security Agency history program. It presents a historical perspective for informational and educational purposes, is the result of independent research, and does not necessarily reflect a position of NSA/CSS or any other U.S. government entity.

This publication is distributed *free* by the National Security Agency. If you would like additional copies, please e-mail your request to history@nsa.gov or write to:

Center for Cryptologic History
National Security Agency
9800 Savage Road, Suite 6886
Fort George G. Meade, MD 20755-6886

Front Cover: Image of Cuba as seen from space.

Back Cover: Order from the director of NSA to the Chief of Naval Operations to collect SIGINT off Havana from USS *Oxford*.

NSA and the Cuban Missile Crisis

Thomas R. Johnson

David A. Hatch



Center for Cryptologic History
National Security Agency

Reprinted 2014

Prelude

The Cuban Missile Crisis of October 1962 was one of the turning points of the Cold War between the United States and the Soviet Union. At that time the two superpowers came close to war, possibly with nuclear weapons; after it, both countries began to seek ways to adjust to each other, in particular, to prevent the use of nuclear weapons.

The events of the Cuban Missile Crisis demonstrated the maturity of the U.S. Intelligence Community, especially in its ability to collect and analyze information. The crucial roles of human intelligence (HUMINT) and photographic intelligence (PHOTINT) in the Cuban Missile Crisis have been known from the beginning. Documents declassified and released in 1998 reveal that signals intelligence (SIGINT) also played an exceedingly important part in managing the crisis.

It should be said at the outset that signals intelligence did not provide any direct information about the Soviet introduction of offensive ballistic missiles into Cuba. However, in the more than two years before that fact was known, SIGINT analysts thoroughly studied the Cuban military buildup. Once the offensive missiles were discovered, SIGINT provided direct support for day-to-day management of the crisis. This is the story of SIGINT in the Cuban Missile Crisis.

When Fidel Castro took power in Cuba by overthrowing the previous dictator, Fulgencio Batista, he was hailed as a liberator by the Cuban people themselves and became a hero to the American people as well. However, Castro soon took actions inimical to American interests and aligned his country publicly with the Soviet Union. The U.S. public and government were gravely concerned about the creation of a communist state and member of the Soviet Bloc only seventy miles from their southern shores; this problem became a major focus of the new Kennedy administration when it took office in January 1961.

In response to the potential threat and the administration's interest in it, the U.S. intelligence community began a new focus on information about Cuba. The National Security Agency (NSA) also beefed up its coverage of Cuba and Soviet support for the island nation.

In Havana, one of the consequences of its alignment with the USSR was fear that the United States might intervene against the new Cuban government. This fear materialized in late 1961 when Cuban exiles, trained by America's Central Intelligence Agency (CIA), staged an invasion of Cuban territory at the Bay of Pigs. Although the invasion was quickly repulsed, it intensified an arms buildup that was already under way.

The Cuban Arms Buildup

The signing of agreements with the Soviet Union and Czechoslovakia in mid-1960 was followed by a secret arms buildup in Cuba sponsored by the Soviets and their satellites. Early indications of that buildup came from signals intelligence—the intercept of Soviet and Soviet Bloc communications that carried information related to the arms supply operations. Beginning late in 1960 and extending through 1961, NSA intercepted messages concerning Soviet ships headed for Havana. The cargo manifests were suspiciously blank, indicating that what they carried was more than just palm oil or farm equipment.

For example, early in 1961 the *Nikolay Burdenko* arrived at the Cuban port of Mariel. The unloading operation was highly secret, but NSA caught Cubans discussing the arrival of tanks. It was hardly an innocent delivery.

As vessels poured forth their cargoes, the Cubans took extra precautions to keep them secret. They kept gawkers away from the wharf, unloaded at night, even prohibited overflights of the area while the unloading was taking place. Deliveries rolled away from the pier under black canvas and heavy guard. The United States government knew this from NSA intercepts of Cubans discussing the procedures.

The agreement with the Czech government in June of 1960 resulted in additional deliveries of small arms and ammunition, light aircraft, military vehicles, and equipment for military factories. Even more ominous was the training of Cuban pilots in Czechoslovakia. American intercept operators began to hear Spanish along with the usual mix of Slavic tongues coming from airfields in Czechoslovakia. As early as the fall of 1960, Cuban pilots were being trained in piston engine trainers; later evidence showed that the training included jet aircraft. Thus it came as no surprise when, in mid-1961, CIA sources got wind of the imminent arrival of Soviet combat transport aircraft, including the light bomber IL-28 and the state-of-the-art MiG-15s, 17s, and 19s. It was clear by then that a major upgrade of the Cuban air force was in progress.

One problem shared by intelligence analysts and administration policymakers alike was the nature of the military deliveries. Most of the military equipment could be described accurately as defensive, but much of it could also be used in taking the offense. The primary question for Americans was: would the Soviets introduce offensive missiles into Cuban territory?

Improvements to Cuban defensive capabilities continued to characterize Soviet deliveries. In May of 1961 NSA discovered references to shipborne radar, and in June, to radars associated with antiaircraft guns. Cubans chattered over the radio about “highly unusual aircraft” and impending training on various unspecified “Russian equipment.”

Military deliveries increased in 1962 and, along with them, Soviet attempts to conceal them. An NSA report in July indicated that Soviet vessels calling on Cuban ports were making false port declarations and declaring less than the known cargo-carrying capacity. By late August NSA noted that there had already been fifty-seven voyages in a little over a month, and some ships were on their second voyage in that period of time.

The Crisis Grows

Cuban air defenses improved at an accelerating pace. In May, SIGINT reports had the first indication of airborne fire control

radar on MiG-17 and MiG-19 planes. Ground radar activity became heavier all over the island. By early summer, NSA analysts concluded that the Cubans were putting together an air defense system copied from the Soviet model. Equipment, training, and procedures were the same. In fact, by early fall NSA was listening to Russian ground controllers speaking in heavily accented Spanish to Cuban pilots.

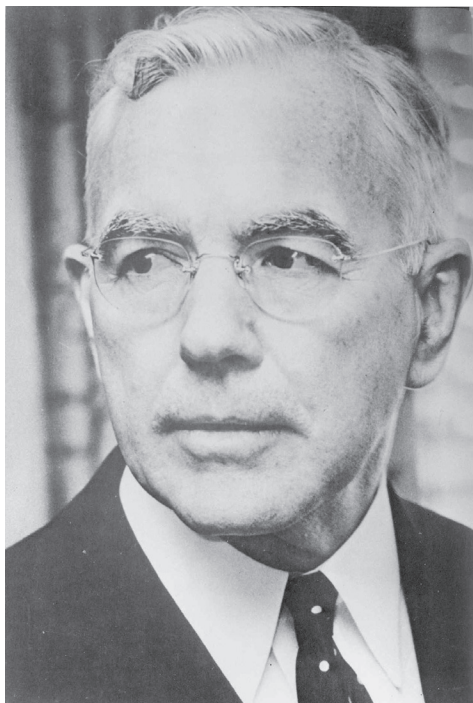
Confronted with American concerns about this military buildup, several Soviet spokesmen, including the foreign minister, assured the U.S. government that the military equipment sent to Cuba was for defense only. Offensive weapons would not be introduced.

In August and September 1962, Soviet deliveries surged to the highest levels ever seen. In August, CIA analysts saw the first indications of an ominous new development: the construction of SA-2 surface-to-air missiles. These represented a new turn in the arming of Cuba—such weapons could shoot American military aircraft out of the skies, including CIA's U-2 photographic reconnaissance planes. It had been an SA-2 that had shot down Francis Gary Powers's U-2 over the Soviet Union two years earlier.

SA-2s, moreover, were very expensive. Was the Soviet purpose to keep U.S. reconnaissance aircraft out of Cuba, and if so, why? John McCone, director of Central Intelligence, came up with an answer that no one wanted to hear: SA-2s were on the island to deny the United States the capability to see the construction of offensive missile installations. Others in the defense and intelligence communities dissented from this opinion.

Human sources and photography could spot SA-2s, but signals intelligence would provide the first indicator of their operational status. On September 15, NSA reported the first operation of a Spoon Rest radar, associated with the SA-2. The SA-2 was operational and could shoot down a U-2. Subsequent overflights would be at risk.

Other parts of the Cuban air defense system also matured in September. NSA reported that Cuban pilots, previously trained in Soviet Bloc countries, frequently went up to challenge American aircraft buzzing the periphery of the island. Cuban pilots practiced



**John McCone, Director of Central Intelligence
during the Cuban Missile Crisis**

timed scrambles and performed border patrols whenever American naval aircraft approached. Under the watchful eye of Russian Ground Controlled Intercept (GCI) controllers, their procedures became coordinated and efficient. With the new MiG fighters, using Soviet-originated ground control procedures and Soviet weapons, Cuban pilots were becoming a potent defensive force. With the presence of antiaircraft weapons and surface-to-air missiles, American aircraft would approach Cuba at their peril.

On October 10, NSA reported that the Cuban air defense system seemed to be complete. The Cubans had just begun passing radar tracking from radar stations to higher headquarters and to defensive fighter bases using Soviet procedures. Their system, with Russians in advisory positions at every point, was ready for business. It was into

this defensive thicket that a CIA U-2 flew four days later. Although it survived, on October 27 another U-2 was shot down.

At this point, on October 15 analysis of photographs taken on the U-2 flights revealed to the U.S. senior leadership that the Soviet Union was preparing sites to install SS-4s, medium-range ballistic missiles. DCI McCone, alone among the government's senior leaders, had been correct about Soviet intentions. President John F. Kennedy secretly convened a series of emergency meetings of his senior military, diplomatic, and political advisors, a grouping that became known as the Executive Committee, or ExCom, to seek ways of coping with this ominous development.

As the crisis progressed, and the ExCom considered a wide variety of diplomatic and military options, the need for information on Cuba and the Soviet Union increased. All members of the U.S. intelligence community responded splendidly.



**Lieutenant General Gordon A. Blake, Director of NSA,
July 1962-May 1965**

The NSA Response

At NSA, the response to the crisis was led by the director, Lieutenant General Gordon Blake, USAF. Blake had become DIRNSA only three months before, but he had a strong background in communications and intelligence. Early in his career he had been operations officer at Hickam Air Force Base in Hawaii, and was awarded the Silver Star for gallantry during the Japanese attack on December 7, 1941. After a series of command and staff positions, in 1957 he became chief of the Air Force Security Service. Two years later he became vice commander and chief of staff of the Pacific Air Forces, then chief of the Continental Air Command. In 1962, when Vice Admiral Laurence Frost was unexpectedly transferred from his position as DIRNSA, Gordon Blake was selected as his replacement.

Much of the day-to-day—or minute-to-minute—burden fell on an element of the Operations organization headed by Mrs. Juanita Moody. Mrs. Moody had begun her career as a cryptanalyst during World War II and had remained in cryptology after the end of the war. Her office worked around the clock to reexamine older reports about the status of Cuba's armed forces and produce current intelli-



Mrs. Juanita Moody

gence quickly. In addition to producing new reports and summaries, Mrs. Moody found it necessary to give impromptu telephone briefings to senior military and political decision makers, most of whom would call for information updates at any hour of the day or night.

Mrs. Moody later recalled how NSA responded as a team to the crisis, sometimes in unusual ways. At one point General Blake came to her office to ask if he might be of any assistance to the effort there. She asked him to try to get additional staff to meet a sudden need for more personnel. Shortly she heard him on the telephone talking to off-duty employees, "This is Gordon Blake calling for Mrs. Moody. Could you come in to work now?"

To ensure timely responses to unexpected needs by the consumers of SIGINT, General Blake established NSA's first around-the-clock command center. General Blake also took responsibility for getting NSA's product to the White House and interpreting its sometime arcane indicators to the policymakers.

NSA had deployed a considerable capability around Cuba, including SIGINT collection from ground-based stations and aircraft circling the periphery of the island, just outside Cuban territorial waters. The USS *Oxford*, a specially configured SIGINT collection ship nestled close to the Cuban coastline, intercepting radio communications from the island.

To the Brink

On October 22, President Kennedy appeared on television and announced the U-2 findings to an anxious public. Despite assurances from the Soviet government that the buildup was defensive, he said, medium-range and intermediate-range ballistic missiles had been introduced into Cuba. He called for their withdrawal or elimination. As one measure to solve the crisis, he proclaimed a naval "quarantine" of Cuban ports to prevent the introduction of additional Soviet armaments. Kennedy also warned that further actions might be needed if the buildup of offensive weapons continued.

SIGINT collectors listened to the radio messages to and from the Soviet vessels on their way to Cuba. Would they turn around, or would they challenge the U.S. Navy “quarantine” that the president had imposed on Cuba? A cordon of U.S. Navy vessels awaited the Soviet cargo vessels in the Atlantic. Conflict between them, if it happened, carried with it the possibility of escalation in the wider war between the two superpowers.

The Fever Breaks

The answer came the next day, from signals intelligence. A Navy SIGINT direction finding net in the Atlantic located the Soviet ships by intercepting and triangulating messages that they were sending back to the Soviet Union. The ships were stopped dead in the water, outside the ring of American naval vessels waiting for them. A confrontation had been averted, one that might have precipitated war. The president, his cabinet, and the American people could breathe a little easier.



The USS *Oxford*

Later, once the Soviets agreed to remove the ballistic missiles from Cuba, NSA reports also provided evidence to the American government that the Communist Bloc also considered the crisis over.

Looking back on the Cuban Missile Crisis, it is clear that SIGINT, combined with other types of intelligence such as photography and human sources, had pinpointed Cuba as a grave threat to the United States. The arms buildup and the defensive improvements spelled trouble and focused the president and military leaders on the threat from Cuba long before the crisis erupted. In the middle of the crisis, the intelligence system gave the president the information he needed to extricate the nation from its most dire crisis since the end of World War II.

Thomas R. Johnson
David A. Hatch
May 1998

Thomas Johnson spent thirty-five years at NSA as both a collection officer and a historian. He is the author of *American Cryptology During the Cold War, 1945–1989*, a four-volume history of the cryptologic community published by the CCH between 1995 and 1998. Since 1999 he has worked as a historian for CIA's National Clandestine Service and is the author of numerous classified and unclassified histories. He is not now, nor has he ever been, a cryptanalyst—he is the Howard Cosell of the cryptanalytic world (see Cosell's autobiography, *I Never Played the Game*).

David A. Hatch is currently technical director of the Center for Cryptologic History (CCH) and is also the NSA Historian. He has worked in the CCH since 1990. From October 1988 to February 1990, he was a legislative staff officer in the NSA Legislative Affairs Office. He earned a B.A. degree in East Asian languages and literature and an M.A. in East Asian studies, both from Indiana University at Bloomington. Dr. Hatch holds a Ph.D. in international relations from American University.

~~TOP SECRET~~

ZCZCRHH 127KA 184

PF

DE

67

P 191653Z

JUL

1962

~~HANDLE VIA COMINT CHANNELS ONLY~~

FM DIRNSA

TO CNO

DIRNAVSECGRU

INFO CINCLANT

CINCLANTFLT

DIRNAVSECGRULANT

JCS

SSO DIA

/NSA REP CINCLANT

ZEM

~~TOP SECRET COMINT CHANNELS ADF/124~~

1. NSA HAS BEEN DIRECTED BY SEC DEF TO ESTABLISH A SIGINT COLLECTION CAPABILITY IN THE VICINITY OF HAVANA CUBA AS A MATTER OF THE HIGHEST INTELLIGENCE PRIORITY AND TO INITIALLY DIVERT THE USS OXFORD FOR THIS PURPOSE.

DIRNSA HAS INITIATED ACTION TO OBTAIN THE SERVICES OF AN MSTs SHIP FOR THIS PURPOSE TO BE OPERATIONAL NOT LATER THAN 1 DEC 1962.

2. SINCE FULL CAPABILITY OF OXFORD CANNOT BE UTILIZED EFFECTIVELY IN HAVANA AREA, REQUEST CNO ASSIGN SHIP TO RELIEVE OXFORD AS AN INTERIM MEASURE UNTIL MSTs CONTRACT SHIP IS AVAILABLE. NSA WILL INSTALL SPECIALIZED EQUIPMENT SIMILAR TO THAT USED ON

SHIPBOARD SPACE REQUIRE-

MENTS ARE SIMILAR.

3. FOR DIRNAVSECGRU. IF INTERIM SHIP REQUESTED CANNOT BE MADE AVAILABLE, AND ON STATION BY 15 AUG, REQUEST OXFORD BE DIRECTED RETURN OPAREA OFF HAVANA ON COMPLETION SAN JUAN VISIT 8-14 AUG. SHOULD THIS DIVERSION BE EXPECTED TO EXTEND FOR ANY LENGTH OF TIME REQUEST THE NECESSARY ADJUSTMENTS BE MADE IN THE REMAINDER OF THE CURRENT ITINERARY FOR OXFORD

1440 1440

19/1713Z JUL

ACT G-51.....

INFO G-50.....G-20.....FOLDERS.....

NNNN

~~TOP SECRET~~

~~HANDLE VIA COMINT CHANNELS ONLY~~

