

CLOSE-UP: THE MOSCOW SIGNAL

Zapping an embassy: 35 years later, the mystery lingers

By Barton Reppert
Associated Press

WASHINGTON — Thirty-five years after security officers first noticed that the Soviets were bombarding the U.S. embassy in Moscow with microwave radiation, the U.S. government still has not determined conclusively — or is unwilling to reveal — the purpose behind the beams.

Among the possible reasons put forward by experts: attempts by the Soviets to trigger eavesdropping devices, to interfere with U.S. intelligence-gathering operations or to affect the health, minds or behavior of Americans working in the embassy.

Low-power microwave signals "continue to be detected" at the embassy, according to the State Department's Bureau of Diplomatic Security.

However, the department has ceased special efforts to monitor the health of U.S. personnel exposed to the mysterious Soviet beams.

Over the years, several studies to investigate potential effects of the Moscow radiation led to controversial results. In some cases, the projects were terminated over the objections of researchers.

The United States has made a series of diplomatic protests to the Kremlin over the microwave situation, beginning at least as early as the Glasnost summit in June 1967.

The Associated Press examined 5,000 pages of declassified documents from the State Department, the Central Intelligence Agency, and the Pentagon under the Freedom of Information Act and interviewed dozens of current and former U.S. officials, scientific researchers, medical specialists and attorneys.

Many questions remain about the microwave bombardment, which has involved a variety of transmitter sites, frequency ranges, modulations and power levels over a time span stretching from just after Soviet dictator Josef Stalin's death in 1953 to Mikhail S. Gorbachev's current reform drive.

Nonetheless, these key facts emerge: — The Moscow microwaves affair has had broader implications in several areas, including U.S.-Soviet political relations, research into the biological effects of non-ionizing radiation, electronic intelligence-gathering operations and employee-management relations at the State Department.

— The U.S. government apparently has succeeded in fighting back lawsuits and administrative claims totaling about \$250 million brought by employees who were exposed to the Moscow radiation or their dependents.

— Some American scientists and medical specialists investigating the problem have been seriously concerned about a possible Soviet biolead in research on the use of radio-frequency and microwave radiation for "mind control" and other weapons applications.

— Significant questions remain over the validity of an epidemiological study of Moscow embassy personnel carried out in 1976-78 by Johns Hopkins University under contract to the State Department. The study found no adverse health effects among embassy workers.

— Shielding of the embassy against the Soviet beams was first recommended 11 years before protective screening was finally installed.

— Certain U.S. personnel in Moscow apparently were exposed to significant amounts of electromagnetic radiation from sources within the embassy, posing the risk of possible "synergistic" effects from combined exposure to such radiation and the Soviet microwaves.

Microwaves are a form of electromagnetic radiation with a frequency range from 300 megahertz (300 million

cycles per second) up to 300 gigahertz (300 billion cycles per second). The main uses of microwaves are in radar, UHF (ultra-high frequency) television, long-distance telephone links, satellite communications, cooking, medical treatment and a variety of industrial processes.

The State Department's Bureau of Diplomatic Security said in a recent statement that "microwave signals ... continue to be detected at the Moscow embassy chancery." It said the Soviet signals cover a broad frequency range, from 5 to 11 gigahertz; are "usually on for a couple of hours a day" and typically have a power level of 0.1 microwatt per square centimeter outside the building.

Department spokeswoman Phyllis Oakley said: "We are, of course, concerned about this situation. In the past, we've protested when (microwave power) levels have exceeded those we consider safe. We're prepared to do so again, should we determine that they pose any threat whatsoever to our staff, however remote."

The declassified documents disclose that the bombardment of the Moscow embassy drew expressions of serious concern in the mid-1970s from two CIA directors — William E. Colby and George Bush.

They also reveal that this concern came years after experts had initially recommended installing shielding to protect Americans working inside the embassy from the radiation being beamed by the Soviets.

Eleven years passed between when scientific advisers proposed shielding of the embassy and when the protective screening actually was installed.

In an April 3, 1965, memorandum, a CIA scientific consultant, whose name was deleted from the document, called for "selection of suitable copper screening and mandatory coverage of all window openings" at the 10-story embassy.

Installation of aluminum screening was finally started on Feb. 6, 1978 — at the same time that special briefings were held to inform embassy personnel about the microwave radiation, which until then had been kept secret from all except a handful of senior officials.

Ten days later, the CIA's concern over the Moscow problem was reflected in a "Dear Larry" letter from Bush to Lawrence S. Eagleburger, deputy undersecretary of state for management.

Bush wrote that while he had been told by a CIA expert that data from biomedical research were insufficient to prove that the Soviet beams posed a health hazard, "the clinical evidence pertaining to several embassy staff members, recently obtained by the State (Department) Medical Services, makes it prudent in our judgment to consider MUTS signal emanations as potentially hazardous."

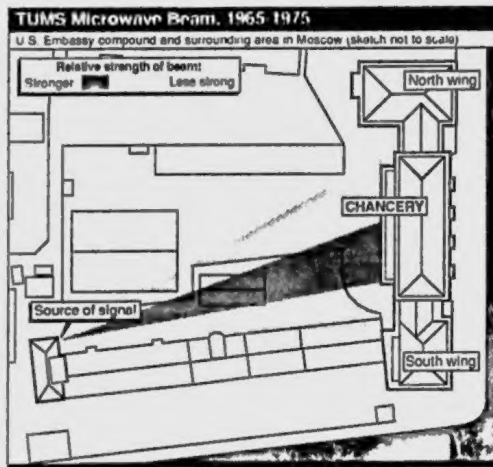
"MUTS" was the code name for the Soviet beams.

Colby's expression of concern, in a Nov. 26, 1975, letter to Eagleburger, came five weeks after the Soviets put into operation a second microwave transmitter — code-named MUTS-2 — atop a building just south of the embassy. This was in addition to a microwave beam — known as MUTS or MUTS-1 — aimed at the chancery from the roof of an apartment building east of the embassy, across Tebalkovskiy Street.

Colby wrote that "the increased probability of health injuries to personnel at the U.S. Embassy in Moscow ... (CIA deletion) ... warrant our immediate attention."

"I have been briefed on the implication that the MUTS and MUTS-2 signals are a possible cause of recent serious health problems of the embassy," the CIA chief said.

Colby told Eagleburger that Donald A. Myers, a CIA specialist on biologi-



AP-Pat Lyons

cal and health effects of non-ionizing radiation, would be available to assist the State Department in evaluating microwave radiation levels in Moscow.

Myers already had spent a week in Moscow in July 1975 working with State Department security officers. He returned to the Soviet capital for a 16-day visit in December 1975 to re-analyze the situation in the wake of MUTS-2 going into operation.

Three days after Myers arrived in Moscow, a CIA memorandum summarized Myers' initial observations: "The CW (continuous wave) signals which were active during October and then again since 30 November are a cause for increased concern, because the power density of the emanations is often concentrated within one or several narrow bandwidths at frequencies that can produce undesirable biological effects."

"Perhaps the most distressing ob-

servation is that the signal composition and orientation continue to change, and that the general trend of such change since July would appear to be in the direction of an increased health risk," it said.

The memorandum added: "Since some recent health problems among embassy staff appear similar to EMP (electromagnetic pulse) researchers at Boeing, at MIT (Massachusetts Institute of Technology), and possibly at the Naval Special Weapons Center, comparison of details of exposure and later-occurring pathologies appears warranted."

Health problems which have been reported among personnel working with electromagnetic pulse equipment include an unusually high incidence of brain tumors and liver diseases.

A memorandum prepared by Myers following his 1975 visit to Moscow said, "Dr. Herbert Pollack, a State Department consulting physician, has

found that several members of the embassy display symptoms that are non-specific but have been reported frequently in patients chronically exposed to non-ionizing radiation."

Such symptoms include headaches, inability to concentrate and fatigue, as well as physiological effects including shifts in the ratios of various blood cells.

Soviet intentions remain the foremost unanswered question surrounding irradiation of the embassy.

Attempts to figure out the purposes behind the microwave beams have involved specialists at the State Department, CIA, Defense Intelligence Agency, Defense Advanced Research Projects Agency and National Security Agency.

The difficulties posed by this task were reflected in a June 6, 1975, letter in which the CIA's Colby told Eagleburger at State: "We hope that by working together State and CIA technical officers can come up with satisfactory answers to this perennial enigma."

Three theories have been put forward as possible explanations:

— The Soviets were trying to interfere with U.S. electronic intelligence-gathering operations.

— The microwaves were used to interact with Soviet eavesdropping devices planted within the embassy.

— Or the Soviets were trying to induce psychological, behavioral or physiological effects among American personnel.

Mark Garrison, who served as head of the State Department's Soviet desk and then as the Moscow embassy's No. 2 official before retiring in 1960, said in an interview, "We never did really figure out to my satisfaction what the purpose of the microwaves was. I've got hunches about it, but there was no final, formal finding that was passed down from the technicians."

Garrison leans toward the electronic jamming theory.

However, that explanation has been challenged by Moscow veterans familiar with the military-run electronic intelligence-gathering operations.

Retired Army Brig. Gen. R.E. Barber said he "absolutely cannot accept" the jamming hypothesis because when he was in Moscow during the mid-1960s the microwaves "had no effect whatsoever on our activities."

Samuel Koslov, a non-ionizing radiation specialist who has helped investigate the radiation, believes the beams probably were intended to interact with Soviet listening devices.

Regarding possible anti-personnel uses of microwave radiation, Koslov said, "I wouldn't say that it is impossible to produce psychological effects. Continued on 7D

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