



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

June 16, 1978

STRICTLY CONFIDENTIAL (FR)
CLASS I FOMC

TO: Federal Open Market Committee

FROM: Arthur L. Broida *ALB*

Attached is a copy of a memorandum from Mr. Denkler to the Board entitled "Telephone Security." This memorandum is being distributed as background to the discussion during the executive session to be held at the end of the forthcoming FOMC meeting.

It should be noted that under the course recommended by Mr. Denkler the Presidents of Reserve Banks other than New York would not be able to participate in the daily market call until such time as it is possible to extend the System of secure voice links to their Banks.

Attachment

BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM

Office Correspondence

Date June 16, 1978

To Board of Governors

Subject: Telephone Security

From John M. Denkler

RESTRICTED-CONTROLLED

This memorandum proposes specific measures to reduce the vulnerability of Federal Reserve System telephone communications to illicit intercept. This action is prompted by evidence that certain types of commercial telephone circuits used by the System are particularly exposed to interception.

We are aware that certain unfriendly foreign powers are actively intercepting private telephone communications in the continental United States, concentrating on the Washington and New York areas, but also including other large metropolitan areas. Intercept is relatively easy because a high percentage of inter-city telephone circuits use exposed microwave radio links for relay purposes. It is known that information from these intercepts is being used, among other things, to develop economic intelligence on the United States and to improve the bargaining position of foreign governments in dealings with public and private organizations in the U.S. It is also possible that information gained from telephone eavesdropping is being used to engage in financial market dealings for the purpose of financial gain. We have been informed by U.S. intelligence agencies that the telephone communications of the Federal Reserve System are likely targets of illicit interceptors. According to the FBI, organized crime is also capable of intercepting private telephone conversations and is probably strongly motivated to do so when there is the opportunity for significant financial gain.

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Over the past year the Board staff has researched and tested various alternatives for providing the type of security needed for protecting telephone communications. We have learned that the vulnerability of microwave can be circumvented by using dedicated landlines.* On the other hand, the use of landlines dedicated to specific users makes the job of selective wire-tapping much easier. Therefore, we have concluded that the most effective way to achieve the level of security needed is through the use of voice scramblers at the telephone terminals. The best equipment available on the market today is manufactured by Harris Electronics of Melbourne, Florida. This equipment digitizes conversations and scrambles them with a random key generator.

Since many sensitive conversations within the Federal Reserve System take place between Washington and New York, it is proposed that a secure voice link be established between the Board and the Federal Reserve Bank of New York. This would involve using existing leased landlines and the Harris scrambler. Up to five telephone handsets can be operated through the scrambler on each end of the circuit. Any telephone set on one end can talk to any other telephone set on the other end. Exactly where each set would be installed at the Bank and the Board will be up to the discretion of the primary user.

All conversations involving sensitive information should use this circuit. In particular, this would pertain to the morning market call and foreign exchange matters.

* Generally, telephone communications use either some form of radio relay or wire cable for long-distance communication. "Landline" refers to the latter alternative.

The landline employed by the secure network could be patched through the switchboard at each end such as to allow its use for regular non-sensitive long distance calls when not required for privacy purposes.

We have a proposal from Harris Electronics to install the Washington to New York link at a cost of \$130,000. This covers the procurement and installation of four modem units. One modem plus a backup would be installed at each location. This redundancy should provide essentially 100 per cent availability of the privacy features.

Telephone conversations involving the other Federal Reserve Banks are also of security concern. While Harris Electronics has the technology to provide high-grade security for telephone conversations involving more than two participants, a multi-station network has not been thoroughly tested and the cost of such service is very high. This cost is a function of the technical problem of tying in more than two stations using a scrambler device. For example, the most basic type of "conference bridge" needed to tie a third station into a two-station circuit would cost about \$210,000. The cost of a bridge to connect the 12 banks and the Board into a 13-station conference network would be about \$450,000, in addition to the cost of receiving and transmitting equipment that would need to be installed at those Banks.

In view of the high cost of going beyond a two-station circuit and the fact that the New York to Washington link is the one involving the most frequent and sensitive information, it is recommended that we proceed with the installation of a secure voice link between Washington and New York as indicated above. We will continue to follow the technology and at such time as a secure network becomes economically feasible, appropriate recommendations will be made to the Board.

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It is also recommended that the Federal Reserve System arrange for the lease of dedicated landlines as necessary to handle all long-distance and conference calls involving Reserve Bank head offices and the Board. While this measure will not protect against wiretapping, it will essentially eliminate the vulnerability of microwave. The additional cost of these facilities for the entire System would include a one-time installation cost of about \$5,500 and an annual rental charge of about \$56,000 for circuits and equipment. It appears that the rental cost can be more than offset by savings possible through the use of the landline network for facsimile communication. This type of communication requires fewer clerical type chores; therefore personnel savings appear likely if facsimile were used for transmitting the System's administrative traffic. The practicability of high-speed, high quality facsimile is now being tested under the auspices of the Board. Appropriate recommendations are forthcoming.