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NATIONAL SECURITY AGENCY  
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MEMORANDUM FOR THE MEMBERS OF THE UNITED STATES COMMUNICATIONS  
INTELLIGENCE BOARD AND THE MEMBERS OF THE UNITED STATES  
COMMUNICATIONS SECURITY BOARD

SUBJECT: Implications of a Policy Which Would Permit Cryptographic  
Aid to Friendly Foreign Governments for their National  
Purposes

The following statement repeats and expands the remarks made  
on the subject by the Director, National Security Agency at the 103rd  
USCIB meeting.

1. Once the U. S. embarks on a program which permits supply  
of cryptographic material or equipment to one friendly foreign  
government it will be impossible to prevent extension of the program  
to all other friendly foreign governments.

a. The U. S. cannot take the position of showing preferential  
treatment in the cryptographic supply business by providing one friendly  
nation with cryptographic assistance and denying it to another.  
Politically, any attempt to do this would be disastrous.

b. There is no way in which provision of such aid to one  
country could be kept a lasting secret from others. Requests for  
aid from Brazil, say, favorably considered, would lead to similar  
requests from Chile, and there would be no way of denying the same  
aid to Chile.

c. The overlapping network of military and political  
alliances and assistance pacts in which the U. S. participates results  
in putting the U. S. in the position of being an expected source of  
aid to its allies in this field as well as in others.

d. In summary, it could be stated that our cryptographic  
information and material is kept in a Pandora's Box which once  
opened can never be closed.

2. It follows that just as there can be no refusal of a request  
of one nation after approval of another's, there can be no discrim-  
ination in the type of aid provided. If, for example, a request for  
assistance from one country is met by the provision of machine "X",  
a similar request from another country cannot be filled by anything  
inferior to machine "X".

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3. In essence, once a start is made, it would become the policy of the U. S. to supply all comers, and there would be many.

a. How much would this amount to? It is difficult to estimate but a fairly good guess can be made. Assuming our friends to be all of the non-Communist countries there are about 55 nations, excluding NATO and the British Commonwealth, who might be expected to come to us for aid. If their requests could be filled by as little as an average of 100 machines, 5500 would be needed, and to this we would have to add at least a minimum of 2000 for NATO nations, beyond those for international military use already planned for. Accordingly, at least 7500 machines would be required. Since cipher machines these days cost a minimum of \$2000 each, some 15 million dollars would be involved, and this is just the initial cost.

b. What additional costs are there? Spare parts, rotors and associated material. In providing U. S. cryptoids NSA estimates a spare parts usage factor of 30% of the initial cost, with a 10% annual expenditure thereafter. For a five year period, then, an additional 12 million dollars would be involved. Rotors and other associated material would amount to another 10 million dollars.

c. What about maintenance and other support? In the cryptographic supply business support does not stop with provision of an amount of material. Cipher machines are delicate instruments and require a considerable amount of maintenance. There would be two ways of supplying this: one would require the use of U. S. maintenance personnel, Service or otherwise, for the purpose of maintaining the material; the other way would be the training of maintenance personnel of other nations by the U. S. Either of these will be costly. Other support is needed also. Nations using the equipment would have to be furnished current procedures, doctrine and, when necessary, instructions on modifications. Then it would have to be seen to that operator training, as well as maintenance training, is properly carried out.

d. What do these two types of training amount to? It would be necessary to establish schools to which nations could send cadres of maintenance men and operators for training. These men would then return to their countries and train others. If we compare this requirement to the method which we currently employ in the U. S. we can estimate that each nation would have to send about six individuals, with the necessary qualifications, for a maintenance training course which, if conducted in English, would take a minimum of eight weeks. If other languages have to be used the course would be longer and infinitely more complicated. Operator training would take less time, probably two weeks.

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e. What are the legal implications? This is difficult to even predict. In some of our crypto-equipments there are patented components. In each case of issue, proper legal agreements would have to be entered into.

f. What would be the effect on COMINT? Under such a program as this the effect is obvious. For all practical purposes COMINT from the non-Communist countries would cease.

g. What further political implications are there? This is a case of something which once done cannot be undone. Suppose that a country now classed as a non-Communist, friendly nation changes "color" after material aid has been supplied. We cannot get the equipment back, and we will have been placed in a position of having helped an enemy or potential enemy.

4. In summation, once the bars are let down, the U. S. becomes the supplier of COMSEC to virtually the whole world. It is a multi-million-dollar supply business and, like any other multi-million-dollar supply business, all the complexities of logistics, legal proceedings and financial arrangements add up to infinitely more than the dollars-and-cents involved.

5. NSA is in no position to undertake such a burden and carry out its primary mission. If such a program were authorized, NSA has neither the plant, personnel, facilities, or space to even consider the task.

6. If the decision is made that the U. S. is to become the world-wide supplier for cryptographic materials, there are probably several workable methods of implementing the decision. One such method might be the establishment of a separate government corporation, with NSA participating on the "board of directors". This corporation would be responsible for all negotiations and the supply of all such material.



RALPH J. CANINE  
Lieutenant General, US Army  
Director

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M/R: This paper was prepared at the Director's instruction to augment remarks made by him at the 103rd meeting of USCIB. It is to be discussed at a joint meeting of USCSB and USCIB on 3 June 1954.

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P/P  
S/ASST (Mr. Friedman) ←