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AUTORITE ORIGINE MCREP	GROUPE DATE HEURE 28 2537 Z SEPT 66	CLASSIFICATION NATO CONFIDENTIAL	PRECEDENCE ROUTINE
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<p>POUR ACTION (TO) NAMILCOM</p> <p>POUR INFORMATION (INFO) SACEUR, SACIANT, CINCHAN LCOM 7265 SUBJECT is Communications Satellites</p> <p>References: (a) C-A(66)52(Revised) (b) LCM 244/66</p> <ol style="list-style-type: none"> 1. NAC, at meeting on 28 Sept 66, considered subject under Item 3, agenda ref (a). 2. SecGen, in his opening remarks, stated that the US brief would be preceded by statements from the NATO Military Authorities on the work being carried out under their auspices. He then called Admiral Villani, Chairman AMCEC, to make his report. (As contained in Enclosure 2 to ref (b)). 3. General Henriot, CSO SHAPE, was then called and made the following statement: QUOTE: SHAPE has developed an early interest in satellite communications which would meet vital operational requirements. As far back as 1961, SHAPE participated actively in the then EMCC Satellite Working Group and enumerated a number of requirements that could best be met by satellites. <p>In 1964 the Standing Group, in response to a request by SHAPE, asked nations to make known what satellite systems - in being or in the planning stage - could be considered to provide circuits for SHAPE to satisfy vital operational requirements.</p> <p>The response to the Standing Group initiative was not very encouraging, and therefore SACEUR decided in 1965 to explore the possibility of obtaining circuits in the US IDCSP. A reply was received from US SecDef indicating that before any US decision could be taken on SACEUR's request, it was necessary to have unique and vital requirements for communications with a high degree of survivability established in a more precise form. At SHAPE, this led to the development of a study to determine the</p>			

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operational requirements for such vital communications links, taking into consideration the survivability requirements of the mission, the time frame during which and the headquarters location from which the mission requiring communications support will have to be accomplished. These missions include such varied possible usage as continuity of command and control, early warning, consultation on and dissemination of alert stages, selection and release of nuclear weapons and broadcast warning of nuclear fall-out threat. Circuits needed for these functions must be instantly available, reliable, secure and survivable. It is SHAPE's opinion that in the majority of cases, these conditions can be most adequately met by a satellite communications system operating under military control.

While this study currently identifies the vital communications channels for accomplishment of SACEUR's mission, there still remains the assessment to determine the degree of survivability required, whether or not this can be provided by conventional means, and categorization within the definition of "unique and vital". On this problem, we are working closely with SHAPE Technical Center who will prepare the translation of these operational requirements for communications into terms of unique and vital satellite communications channels. Within the next few months this work should be advanced sufficiently to permit detailed discussions with US technical personnel to determine the degree of practical participation by SHAPE in the US programs.

In the context of the relocation of SHAPE to Belgium, the interest to utilize a satellite system to meet vital requirements - in particular on the long haul North-South link between Casteau and Naples - has considerably increased. Once more, SACEUR in August of this year explored the possibility of the US providing a channel in the IDOSP and two ground stations to be operational by 1 April 1967 for a satellite link between relocated SHAPE and CINCSOUTH in Naples. Such an arrangement would have the added advantages of representing a tangible first step towards development of a more extensive and responsive system, as well as providing ACE and NATO nations valuable experience in operation of such a system. No reply has yet been received.

Finally, communications satellite systems will be considered during the development of the ACE Long-term Communications Improvement Planning (LOTCIP) at STC. It is envisaged that STC will require assistance by national experts to accomplish this part of their study.

In summary, SHAPE is highly interested in the introduction of communications satellites into the NATO inventory, both from the longterm point of view and to immediately improve our communications posture after relocation. UNQUOTE

4. The US Ambassador then made the following statement to the Council:

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QUOTE: The United States Delegation first mentioned to this Council in early 1965 the possibility of a cooperative NATO effort in the defense communication satellite field.

This may have seemed a far cry then, but a lot has happened since - both in the development of technology and experience and in our own deliberations. As we all know, the NATO Defense Research Directors, the NATO Army Armaments Groups, the Allied Military Communications Electronics Committee, and the North Atlantic Council have since studied and discussed various aspects and implications of a NATO communication satellite capability. Then, at our meeting on July 27th, the Secretary General requested the United States to provide early in the Fall a briefing for the Council on the US Defense Communication Satellite Program and to suggest the implications which we see for the possible role of satellites in a comprehensive NATO Communications System.

Our presentation here this morning is in response to that request. We have with us Admiral Francis D. Boyle, the Deputy Director of the US Defense Communications Agency, who is responsible for the development of the US Defense Communication Satellite Program. Admiral Boyle will brief us on the present status of US projects and on our plans for more advanced follow-up systems. After that I shall lay before the Council our own thoughts and proposals for a cooperative program of action leading to the use of communication satellites as an integral part of an overall NATO communication system.

Before he starts, let me say that Admiral Boyle and I shall be using a term of art which has entered our own vocabulary in the course of determining our own policies and plans. The term is "unique and vital requirements". The background of this is that the United States has supported from the beginning the development of a single, global commercial communication satellite system with the broadest feasible international participation and serving the advanced and the less advanced nations as well. We did not wish to develop defense satellite communication systems which would unnecessarily duplicate the facilities of the global system, or lead to frequency interference, or to a waste of resources. It was only after intensive study over many months that we determined there is a clear need for a special satellite communication system to meet needs which are "vital" to our system of defense and "unique" to its operation - this and nothing more. This term, then - "unique and vital" defines both the purpose and the limitations of the system which we shall be discussing here this morning. UNQUOTE

5. Admiral Boyle then gave the brief contained as Enclosure 1 to ref (b).

6. The US Ambassador then made the following statement to the Council:

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QUOTE: Admiral Boyle's presentation has made it clear that US military authorities are convinced of the important role that satellites have to play in defense communications in the immediate future. After careful study we are going ahead under a high head of steam on the projects he has described to us.

As I recalled earlier, the Secretary General requested the United States, a couple of months ago, to consider the implications for the NATO defense communication system of our early experience with this new technology.

Our broad conclusion is that a satellite capability would add significantly to the flexibility, the reliability, and the survivability of a future communication system linking NATO military headquarters to the furthest tactical and strategic forces and to ships at sea - and providing command and control communications to and among our defensive forces.

Our further conclusion is that it would be entirely feasible to introduce NATO quickly into the field of satellite communications - at a relatively modest common cost - provided we move quickly. Indeed we could have a North-South link for experimental purposes by about the time the Supreme Allied Commander moves into his new headquarters and an operational satellite capability by early 1968.

I would remind the Council that such a move on our part on the frontiers of modern defense technology would be dramatic evidence of the vitality of this Alliance as we approach our twentieth birthday.

Under these circumstances, the United States has prepared a three-step proposal which we are prepared to lay before you - in outline this morning and in more detail later - if our allies decide to go into it more thoroughly.

The first step in our proposal is that NATO become associated with the testing and evaluation of satellite communications, using the US Initial System which Admiral Boyle has described - that is to say, the system involving the seven satellites now in orbit and the additional eight satellites which we now plan to place in orbit in early January 1967. By this means NATO could acquire immediate experience while continuing to appraise its future system and equipment needs in more detail.

This exploratory and developmental phase, of course, would require ground terminals. As you know, the SHAPE Technical Center is already constructing one terminal which might be used for this purpose. With two terminals, one in Benelux and one situated at Naples, NATO could acquire within the next nine to twelve months a North-South experimental communication link via satellite

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between the new SHAPE Headquarters and the Southern Command if the decision to procure the required ground terminals is made promptly. In that event, the US would be prepared to provide to NATO satellite time for tests, evaluation, and the development of NATO concepts and requirements. Such time, though subject to priority for US operational needs, could be expected to amount to an average of several hours per day until early 1968. The US would naturally pay its share of the common costs.

The second step in our proposal is that NATO acquire one or two synchronous satellites, to be placed in or near the equatorial plane at approximately longitude 15 degrees W in order to service unique and vital communications needs of NATO. We would be prepared to provide and launch these satellites at common NATO expense.

These NATO satellites could be launched during the first half of the calendar year 1968 - again if we start promptly. This NATO program would require approximately ten ground terminals. The common cost, through the acquisition of this operational system, is estimated at between 22 and 30 million dollars, including satellites, ground terminals and associated equipment.

The third step in our proposal, Mr Chairman, is that the US advanced operational system, which is still in the planning phase, be designed to take account of the unique and vital communication requirements of NATO. Our present plans are to decide upon the final design characteristics of the next generation satellites for the advanced operational system by mid-1967.

This three-step program is, of course, in addition to the cooperative effort to develop improvements in ground terminals already under study in the NATO Army Armaments Group.

This, in brief, is the proposal we offer in response to your request to study this problem, Mr Chairman. We hope that our colleagues will find this opportunity as promising for the common defense and as challenging to NATO as we do.

Not the least challenging aspect is the need to move quickly. We have heard from the AMCEC representative this morning that a NATO military requirement exists for a satellite capability. Even without detailed statistical analysis, I would hazard the view that instinct and plain common sense would both tell us that any comprehensive NATO communication system of the future would need a satellite component.

In any event, Mr Chairman, my own government cannot, of course, delay the development of its defense satellite communication system while long-range and complex studies are carried out for NATO. What we can do - and what we are here proposing to do - is to offer immediate cooperation with NATO along a path leading to an effective and economical "mix" of land lines, high frequency networks, tropospheric scatter facilities, micro-wave communication links and communication satellites.

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To make a timely decision on this proposal - to work out the necessary agreement to carry it out - and to relate it to overall communications planning will require, no doubt, the urgent attention of the most qualified representatives that our capitals and delegations can assign to the task.

For our part, the United States stands ready to go to work promptly and to provide any reasonable technical assistance to the Organisation while the International Staff becomes familiar with the elements of this novel and exciting enterprise. UNQUOTE.

7. All Delegations expressed their gratitude and interest in the US initiative in this field. They all further agreed that their authorities would study the proposals made by the US.

8. The Rep to the UK stated that he was sure his authorities would fully support NATO participation in this program.

9. The Rep to Italy stated his government was very interested in this subject and was sure the US proposal would be supported.

10. The Rep to the Netherlands thought that a senior group should be formed to study this proposal and noted the urgency with which they should proceed.

11. The Rep to Norway associated himself with the remarks of the Netherlands Rep and asked how this satellite system would affect systems now in existence and being studied. The US Ambassador answered that the proposed satellite communications would be complimentary to existing systems and not intended to replace them.

12. The Reps to Germany and Turkey associated themselves with the proposal of the Netherlands Rep.

13. The Rep to France stated that his government is very interested in the satellite communications program.

14. The Rep to the US agreed with the Netherlands Rep that a high level group be established and that this group be given flexibility to study the desirability of a NATO satellite communication program.

15. The SecGen stated that he felt the problem of establishing procedures was too complex to deal with at the present meeting and suggested that the Secretariat, by contacting the Delegations, prepare proposals to the Council for establishing a specific group and present these proposals to the Council on 12 October 1966 for a decision. All agreed with this procedure.

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