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CHAPTER VII COMMUNICATIONS

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Declassified on :
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DEFENSE SATELLITE COMMUNICATIONS SYSTEM (DSCS)¹

(U) Background and Objectives. The DSCS originated as an ~~RTIDE~~ effort under the project title of Initial Defense Communications Satellite Program (IDCSP). The objective of the Defense Satellite Communications Program (DSCP) was to establish an early limited capacity, minimal cost operational capability to meet the requirements of the National Command Authorities (NCA) for military satellite communications.

(U) Hardware. Thirty-six (36) earth terminals of four basic types (large fixed, large transportable, medium transportable, and shipboard) had been procured for the IDSCS. There were currently 24 functional satellites in near-synchronous equatorial orbit. The DSCS Phase II was expected to provide an additional 30 earth terminals.

(U) Management. Operational direction of the IDSCS, redesignated as the DSCS Phase I, was exercised by the Defense Communications Agency (DCA). Satellite link scheduling was performed by the Satellite Communications Control Facility (SCCF). Area direction would be exercised through DCA Area Control Centers, as part of the Defense Communications System (DCS). Satellite telemetry and tracking data (orbital operations) was performed by the USAF Satellite Test Center.

(U) NORAD SPACETRACK. Two terminals (AN/TSC-54) installed, operated and maintained by ADC, located at Shemya AFS, Alaska, and Peterson Field, Colorado,

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supported the NORAD SPACETRACK system. A second link to support the NORAD Space Defense Center, Diyarbakir, Turkey, circuit was programmed to become operational during FY 70.

NORAD Satellite Communications Requirements.

In December 1964, NORAD submitted requirements to the JCS for what was known at that time as the Initial Defense Communications Satellite Program. For the follow-on system, or Advanced Defense Communications Satellite Program (ADCSP), NORAD, in November 1966, submitted requirements for 131 satellite circuits. JCS (J-6) forwarded the NORAD requirements to the Chairman, Tactical Satellite Communications Executive Steering Group for consideration in the Tri-Service Global Coverage study. A new Qualitative Requirement (NQR 1-58) for a NORAD Satellite Communications Capability was issued by NORAD on 1 February 1968 (succeeding NQR 3-66, 1 Dec. 1966). In March 1968 the JCS approved the NQR for planning purposes. The JCS stated that some of the system criteria in the NQR would not be met in the next generation satellite communications system. Some of the criteria that could not be expected to be satisfied prior to 1975 were satellite-to-satellite relay, ground terminals as survivable as the state-of-the-art would permit, and direct access with interoperability with all major Defense Communications System common user networks. In response to JCS Memo 27-69 dated 17 January, 1969, NORAD/CONAD re-evaluated its satellite terminal requirements and resubmitted them to JCS on 4 March 1969.

Tactical Satellite Communications (TACSATCOM).

The Tactical Satellite Communications System, presently in the R&D phase, was a tri-service program whose purpose was to increase the effectiveness of tactical operations by overcoming some of the constraints imposed by present conventional communications means.

In response to direction from the Director of Defense Research and Engineering Group, the Tactical Satellite Communications Executive Steering Group (TSEG) was directed to prepare an Operational Concept Plan. The Plan, forwarded to the JCS on 14

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March 1968, was based on the consolidated requirements as validated by the JCS. In response to the JCS Memo 576-68 of 27 December 1968, NORAD re-evaluated its tactical satellite communications requirements and these were forwarded to JCS on 18 February 1969.

The interim operational system using Lincoln Laboratory Experimental Satellite No. 6 (LES-6, launched 26 October 1968) and TACSATCOM-1 (Hughes Corp. satellite launched 9 February 1969) was expected to provide in the 1969-71 time frame supplemental communications for contingency operations, airborne command posts, and airborne VHF relay. Additionally, satellite communications experience would be gained in an operational environment.

In his 6 September 1968 Memo to the Secretaries of the Military Departments, Chairman of the JCS, and Director of DCA, the Deputy Secretary of Defense directed that a joint Technical Development Plan (TDP) for an operational TACSATCOM system be submitted by 15 May 1969. This plan was to fulfill the requirements of DOD Directive 3200.9 and include the necessary documentation to provide the technical, economic and military basis to support a DOD decision to proceed with contract(s) definition in FY 70.

A communications annex (Annex B) to NADOP 71-78 was published on 28 October 1968. NORAD stated in this annex that without sufficient satellite communications it might not be able to communicate with future systems and listed its C&E objectives as follows:

1. Voice teletype and data modes via satellite communications.
2. Communications satellites which will provide a high assurance of operations in all environments, including conditions of nuclear radiation.
3. Discreet access of communication satellites.

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