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RESEARCH AND
ENGINEERING

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THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

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Authority: EO 13526
Chief, Records & Declass Div, WHS
Date: JUN 18 2015

20 AUG 1980

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: DSP Mission Availability (U)

(P) The system availability of DSP, especially DSP-E, is undesirably low and I want to continue exploring means for improvement in the near term. In particular, the 19 May AF/RD reply to the OJCS (C3S) leaves a number of questions unanswered concerning alternatives for improving the mission availability of the overseas ground station before improvements already programmed would be operational in 1983. A summary of these questions is attached. The Air Force is requested to examine these and discuss the responses with my staff (Director, Defensive Systems, OUSDRE, and Director, Surveillance and Warning, OASD(C31)) in preparation for a follow-on meeting with General Dickinson and me in about two weeks.

Signed
Gerald P. Dinneen
Principal Deputy

Attachment

Copy to:
Director, C3S, OJCS

Office of the Secretary of Defense
Chief, RDD, ESD, WHS
Date: 18 JUL 2015 Authority: EO 13526
Declassify: X Deny in Full: _____
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~~Review on~~ 19 August 1992
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ANTENNA LIMITATIONS

1. (S) Can the 38' antenna at Cornhusker be moved to the OGS? What is the impact? How soon could it be done?
2. (S) Can the 15' antenna at Westlake be moved to the OGS? What is the impact of using a 15' antenna at either the OGS or CGS (signal-to-noise margins and associated error rates)?
3. (S) What other antennas and mounts are available which are suitable or could be modified for DSP link use?
4. (S) Are there any problems expected in moving the spare SPS antenna, the actual SPS antenna, or a 15' antenna, to the OGS? What schedule could be considered?
5. (S) What problems and schedule could be anticipated in diplexing the DSCS antenna at the OGS to allow its use for either DSCS communications or for DSP data link?
6. (S) What is required during scheduled maintenance of the OGS and CGS antennas and what would be the impacts or problems anticipated if scheduled maintenance were significantly curtailed? (Detail current scheduling and tasks.)
7. (S) Can the antennas be left in place or manually pointed during preventive maintenance so as to shorten down time? What are azimuth/elevation angles of DSP-E antenna during typical daily cycles?
8. (S) Would there be any problem using the Westlake facility to cover for periods of scheduled antenna maintenance at the CGS?

Computer Limitations

1. (S) To what extent can subsystems of DSP computers be switched between system strings and how rapidly? How quickly can a restart be made after changing string components?
2. (S) What provisions are there in resident software to automatically drop an off-line job and bring up the system in operational configuration very rapidly? What plans are there to improve this area? What hardware switching is necessary?
3. (S) What off-line tasks could be supported by an additional computer or transferred to another facility?

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4. (S) When the computers are replaced with 3033s, it is understood that each operational computer "string" is comprised of a 3033 preprocessor and 3033 general processor. Will these units be configured so either can perform either role and so there is ready switching between units of parallel strings? If not, what would it take to provide this and would the inherent redundancy of this approach be worthwhile?

Statistics

1. (S) How has availability compared between the OGS and CGS when examined on a common basis? (For example, the non-availability of one antenna or two computers at either site?)
2. (U) How are maintenance periods scheduled? This should include a discussion of scheduling for the entire Missile Warning System.
3. (U) What is the distribution of non-availability periods by units within the antenna or computer systems? If specific units are greater sources of problems than others, what sub-system redundancy or other fixes could be considered?
4. (U) What rules are used to determine when a system is red?

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COORDINATION FOR THE MEMO FOR THE SECRETARY OF THE AIR FORCE
SUBJ: DSP Mission Availability

DUSD(S&SS) *[Signature]* 8 Aug 80

*copy
11 Aug 80
S:WS*

PDASD(C31) *HH Van Tuyl* 9/17/80

Director, C3S, OJCS *[Signature]* 18 Aug 80

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