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Office Memorandum

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Op-06C1/cso
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DATE: 26 OCT 1960

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TO : Op-00

Via : Op-06...Op-09 R11-1

FROM : Op-06C

SUBJECT: SAC use of computers in targeting, information on

1. Some rather startling information on SAC uses of computers in performing the NSTL/SIOP targeting function has come to light as a result of our request for their computer programs. Although not officially stated nor widely known, computers are used by SAC for less than 5% of the targeting function. Planning actions are the result of staff manipulation, judgements, and decisions with the computer used in a straight bookkeeping role. Selection of a target appears to be a case of staff officer judgements, computer listings, followed by a case of staff officer judgements, computer listings, followed by more staff manipulations, judgements, and decisions. It appears that the advertised "unique" scientific computational capability is in fact a rather expensive and inefficient sorting and listing operation. Development of the NSTL/SIOP involves a six step process sequentially as follows:

a. Establish target priority - Two lists are prepared according to arbitrary point worth.

(1) Military targets (A points) have point values applied according to type installation utilizing a computer to produce a priority listing in descending order of total points assigned.

(2) Urban/Industrial targets (B points) - Computer program provide priority according to population, and industrial worth determined by an appraisal of an item's relative order of importance and worth in the U.S. industrial economy. This value is then applied to the Soviet economy. Manual analysis contributes other point information. Therefore a combination of manual and machine produced point values for each target is determined.

(3) Prior to establishment of DJSTP the A and B points have never been mixed. Mixing of these lists in development of the NSTL is accomplished manually since A points and B points have no apparent relation. This appears to be an arbitrary if not capricious solution.

b. Establish DGZ - A computer program is used. The SAC program used fixed factors as follows: CEP 3,000 feet, all surface bursts, all weapons 3.8 mt; SAC is currently redesigning this program to provide an average height of burst and to make allowances for different CEP's as introduced by JSTRS. DGZ's are checked manually and reset as required.

c. Damage analysis - A computer program exists for this function, however, it is limited to a comparison of the point values destroyed by manually selected DGZ's against the total point value used in subparagraph la preceding.

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(The preceding three functions are performed as a responsibility of the Intelligence organization while the remaining functions are performed as a responsibility of Operations).

d. Penetration analysis - This is reported to be a complicated, completely manual operation, utilizing desk calculators and the computer is used only for bookkeeping functions. This analysis is conducted by 15 minute time blocks. Assessments of the damage inflicted to reduce enemy effectiveness is made by applying weapon system reliability and enemy defense probabilities to produce enemy defense effectiveness for the beginning of each succeeding time step.

e. Flight Planning - Profile flight planning is accomplished for each individual mission, with mass penetration and suppression flights in the same area planned together. When all flights have been individually laid down, all will be computer processed for TOT resolution and interference analysis. Information indicates that: (1) This method of resolution has not been accomplished in this manner before; and (2) this could not be done until December.

f. Fallout analysis - Here a computer program exists although it is reported that this is not as good as either the AFCIN model or the Naval Weapons Laboratory model.

Essentially then, the computer is used in the targeting function to perform bookkeeping functions. Apparently each program is run on the computer by the officer who wrote the program and since he is not required to document his program a good deal of the operating instructions are unrecorded. One knowledgeable computer expert has stated the programs are extremely inefficient but do provide accurate processing of the functions programmed.

2. SAC has a war gaming capability for SAC programs. However, it cannot, without extensive reprogramming covering some months, accomplish a valid war gaming of the SIOP. Neither can the Air Battle Analysis model.

3. Resistance is mounting to the Navy request for SAC computer programs. A great danger exists that SAC will strive to sell the viewpoint that furnishing NSTL Data Base, Alert Force DGZ's and IDA's on tapes satisfies the Navy request for computer programs. This is fallacious. Unless otherwise directed I intend to pursue obtaining SAC computer programs. My estimate of the outlook is that DSTP (SAC inspired) will procrastinate and delay furnishing this information. They will attempt to avoid furnishing computer programs entirely because if furnished it will show SAC as an agency which has done a lot of talking about their scientific approach to the problem while in reality they have used hand methods which moreover are applicable solely to SAC needs.

Very respectfully,

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Op-922V

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PAUL P. BLACKBURN, Jr.

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