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TSSG/APSD/ISAB-024/70
20 February 1970

MEMORANDUM FOR: Chief, Applied Photo Science Division, TSSG/NPIC
ATTENTION : Chief, Image Evaluation Branch, APSD/TSSG/NPIC
SUBJECT : Evaluation Procedure for Original Negative Prepared by

25X1A

[REDACTED]

The ISAB reviewed the subject evaluation procedure with respect to the ISAB/DAS microdensitometry capability and submits the following comments:

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1. The DAS, utilizing the [REDACTED] instrument, can provide the microdensity measurements required in the data collection phase (Chart I) with the following estimated response times:

a. Assuming that IEB personnel will select the edge targets and provide the grid coordinates for each edge, approximately 50 hours will be required to measure the mission step wedge and 100 edges with 3 traces per edge.

b. Again assuming that IEB personnel will identify the minimum density area of tone trace targets, approximately 30 hours will be required to measure 100 such areas with one trace per target.

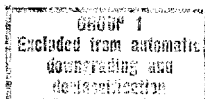
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c. Measurements of additional targets [REDACTED] identified by IEB personnel will require an average minimum time of 20 minutes depending on the number of traces per target.

2. The computer programs necessary for computations and data handling do not presently exist within NPIC. The ISAB/DAS efforts and comments are as follows:

a. The status of the interim production capability was reported in TSSG/APSD/ISAB-015/70 dated 29 January 1970. With respect to the evaluation procedure, only the translate, exposure generator, and MTF programs are applicable.

DECLASS REVIEW BY NGA / DoD



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Approved For Release 2005/02/17 : CIA-RDP78B04767A000300010005-1

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b. A "final" [REDACTED] Processing System is scheduled to be fully implemented in July 1971 with intermediate completions throughout the time period. The system will include versions of the interim programs plus routines to display data in hard copy graphical form. The primary advantage of this system is the capability for off-line computer access through remote stations such as the [REDACTED]. However only the translate, exposure generator, and MTF programs would be applicable to the evaluation procedure. The following schedule is AID's latest estimate with speculation that it can be completed at an earlier date:

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- 3 March 1970 - Translate Program Expogen
- 1 April 1970 - Raw Data Output on Printer
- 1 May 1970 - Raw Data Graph on Printer
- 1 July 1970 - Sense Program
- 1 Sept 1970 - Optimum Filter MTF Program
Granularity Program
- 15 Oct 1970 - Simple MTF Program Raw Data
Plot on Plotter
- 15 Nov 1970 - MTF Output on Printer
- 7 Dec 1970 - MTF Output on Plotter
- 7 Mar 1971 - Two-Dimensional MTF
- 1 July 1971 - Contour Plot

3. Further ISAB activity with respect to the evaluation procedure is dependent on division policy, and computer policy.

a. A recommendation to implement the entire procedure or only portions is more within the purview of IEB responsibilities with ISAB assuming the role of supporting IEB.

b. The ISAB recommends an operation analogous to the PI-PHD relationship, i.e., the IEB (PI) requests ISAB (PHD) to provide certain data for certain purposes based on microdensity measurements. The ISAB would be responsible for the hardware and software required to do the job. The IEB would be required to state their requirements and identify the targets to be measured. The computed data which includes the statistical summary files and intermediate computations if desired would be given to IEB for their analyses.

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[Redacted]

c. Based on IEB requirements, ISAB would then have to task AID to program the necessary routines or consider having ISAB personnel do the programming under Open Shop Fortran. The latter alternative would require that AID provide the necessary drum file space. Approximately one manyear of ISAB effort would be required to program and implement all available routines in the entire procedure. A lesser number of routines would require less time and effort.

d. The IEB and ISAB personnel would have to maintain a coordinated effort of involvement and communication to ensure that the right targets are measured in the right way, the right data is generated for the right purpose, and most importantly that both IEB and ISAB understand the computed data based on the collection, computation and utilization procedures.

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[Redacted]

Chief, Image & System Analysis Branch
APSD/TSSG/NPIC

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NPIC/TSSG/APSD/ISAB,

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(20 Feb 70)

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