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Approved For Release 2000/06/07 : CIA-RDP78B04747A001600020001-2

TID-196/65
16 August 1965

MEMORANDUM FOR: Chief, Support Staff, NPIC
ATTENTION: Chief, Logistics Branch, SS
SUBJECT: Automatic Plotter Requirement, Staff Study

Statement of the Problem

There is a requirement in TID for the replacement of TAB's present automated plotting capability.

Statement of the Facts

1. The present plotter, a [REDACTED] Electroplotter, Model H, has become obsolete and of marginal operational capability.
2. The present plotter does not meet present plotting production requirements, much less anticipated production requirements.
3. It is not practical for TAB to use the [REDACTED] Plotter presently located in IPD/OB.
4. The [REDACTED] Plotter is not suitable for TAB's use.

Discussion of the Facts

1. According to maintenance personnel, specifically Mr. [REDACTED] the present plotter is described as marginal in its operational capability. The plotter has given six years of continuous service and at present must be constantly serviced by [REDACTED]. As a matter of fact, if [REDACTED] had not been available on instant call to make adjustments and repairs at the first sign of malfunctions, it is doubtful that the plotter would now be useable.

DECLASSIFICATION REVIEW BY NIMA / DoD

GROUP 1
Excluded from automatic
downgrading and
declassification

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2. The Model H Plotter does not meet present plotting production requirements for the following reasons:

- a. It has no line drawing capability.
- b. The format size is not large enough to meet present plotting requirements.
- c. It is not sufficiently accurate; anticipated future reconnaissance systems, with greater ground resolutions, will demand a significant increase in production, both in terms of accuracy and in volume.

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3. The [REDACTED] Plotter located in IPD/OB cannot be used for the following reasons:

- a. The location of the plotter does not afford easy access and use by TAB personnel. It is necessary that TAB personnel be at the side of the plotter during the plotting sequence so that the plot is continuously under their inspection and control. To accomplish this, the plotter must be operated under TAB supervision in the same way that the present Model H is used.

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- b. There are no [REDACTED] computer programs now written, or anticipated, which will handle the necessary variety of plots.

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- c. TAB uses its plotter very frequently and on an unpredictable schedule. Such demand on the [REDACTED] Plotter would disrupt schedules planned by IPD/OB for its own production use of its plotter.

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4. The [REDACTED] Plotter is not suitable for TAB use for the following reasons:

- a. The format size is not large enough.
- b. The instrument is not sufficiently accurate.

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c. The plotter does not provide the opportunity for complete inspection of the plot because the greater part of the plotting area is always wrapped around the drum out of sight of the observer; because of the fact that most of the plot is wrapped around the curved surface, it is difficult to add annotations while the plot is being produced. This is necessary to properly identify the various individual items in complicated plots.

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d. There are no [redacted] computer programs to handle present or anticipated TAB requirements.

Specifications and Features Desired in Requested Plotter

1. To provide the quality of plotter needed by TAB for its production work the following specifications should be observed:

- a. Accuracy of point and symbol plotting - $\pm 0.05\%$ of full scale, or $\pm 0.015"$.
- b. Line drawing capability.
- c. Plotting rate for points and symbols - up to 300 points per minute.
- d. Power - 115 volts \pm 10 volts, 60 cycles, single phase, 30 amps.
- e. Environment - $+40^{\circ}\text{F}$ to $+90^{\circ}\text{F}$.

2. To accommodate TAB's work procedures the plotter provided should have the following operational features:

- a. Plotting area - approximately 42" x 58" of useable area.
- b. Input - magnetic tape (7 channel)
- c. Point and symbol plotting - controllable by the operator during the plotting operation.

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- d. Scale - Operator to have the option of scale with the more common ones selected by push button.
- e. Reference point or origin - opportunity to set at any point in the plotting area with the capability of assigning it values by switches.
- f. Paper size - capability to handle various size paper from 8 $\frac{1}{2}$ " x 11" to approximately 45" x 60" with illuminated alignment indicators for positioning paper. Paper to be held in position by vacuum.



Recommendations

1. It is recommended that Logistics Branch/SS, contact the manufacturers of plotters and obtain brochures and specifications for evaluation by TID personnel.
2. Additionally, it is recommended that the plotter selected by TID be purchased on a high priority basis. No R&D is deemed necessary because it is anticipated that some of the plotters already developed will meet TAB requirements.

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Deputy Chief,
Technical Intelligence Division

Distribution:

- Orig. + 1 - Ch/SS/LB
- 1 - Ch/TID
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