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Camera Calibration

TCS 3323-58
Copy 2 of 3
10 November 1958

Director, PIC

Chief, Technical Intelligence Services Division

Control Extension and Geodetic Project

The following outlines the current TISD position on the project concerning control extension and geodesy from TALENT photography.

A. Calibration of cameras

(1) As of this date TISD has received calibration stellar exposures on 11 A2 and 9 B cameras.

(2) TISD has computed focal lengths of 10 A2 and 3 B cameras.

(3) The calibration computation is prepared for ALWAC reduction, and takes about 3/4 hours to compute in its entirety.

(4) In addition to the electronic computation, there remains about 8 hours hand-work per camera calibration. This includes star identification and comparator measurements.

(5) There should be a reduction in the hand-work time of about 3 hours per camera when the programming is complete for the teleardex input routine from the Mann comparator. However, there still remains about 120 hours programming work on this phase. This programming will have other valuable uses in addition to application to this project.

(6) Computor programming of space resection problems for single photograph analysis is in the de-bugging stage. This program will be valuable in the analysis of lens distortion control problems over Arizona range.

(7) "Compiler" bid now under consideration could be handled under "C" system. A practical compiler system will benefit all projects whenever computations are required

B. Distortion patterns for A2 and B cameras

(1) The attached trip report of [redacted] outlines this problem. 25X1A

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HANDLE VIA TALENT
KITROL SYSTEM

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(2) About one month's time for [redacted] plus 2 others is required to answer the basic question of accuracy and reliability of distortion from stellar exposures. 25X1A

(3) If the accuracy and reliability factors appear favorable, it will require approximately 32 hours per camera for distortion determination. This figure does not include computation time. Lens distortion formulae have yet to be programmed. This will take approximately 30 days to accomplish.

C. Control Identification

(1) There are presently two AMS and two HO personnel working almost full time in TISD on the problem of identifying control on TALENT photography.

(2) These personnel are also working under [redacted] on the problem of identifying control on the Arizona photogrammetric range photography recently flown for TISD on A2 and B configurations. 25X1A

(3) [redacted] is currently offering the help of their nine AMS people to participate on this program. 25X1A

(4) [redacted] of ACIC is offering the help of practically any number of people for the program. 25X1A

D. TISD Recommendation

(1) The program be continued under PIC/TISD cognisance and general supervision.

(2) As soon as possible, the working forces be moved to another location, because of space problems in TISD. The prefered relocation site is Navy PIC.

(3) The camera calibration, now almost a routine project in TISD, be transfered entirely to ACIC. Training of ACIC people will take about 1 week, and can be accomplished either at ACIC or CIA/PIC.

(4) The distortion problem be handled by ACIC people, after [redacted] training preferably at ACIC. 25X1A

(5) Any liaison between TISD and ACIC be defered for at least 3 weeks to allow higher priority travel and other work to be accomplished.

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(6) This higher priority work involves Project "C" and concerns a long-lead time item which must be started as soon as possible.

(7) Personnel offered by AMS and ACIC be held on obeyance for at least 3 weeks pending completion of initial Project "C" work. [redacted] should be notified. 25X1A

[redacted] 25X1A

Enclosure:
Trip Report to California 23-27 Oct 58

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