~~TOP SECRET~~ ~~HEXAGON~~

HANDLE VIA BYEMAN CONTROL SYSTEM

(S) NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.

THE NRO STAFF

4 April 1967

MEMORANDUM FOR THE RECORD

SUBJECT: HEXAGON Panoramic Rectifier

[redacted] AFRDR, convened a meeting at the ITEK Data Processing Center, Alexandria, Virginia, on 8 March 1967, to discuss rectification of the HEXAGON panoramic materials. The purpose of the meeting was to establish the desired characteristics of the rectifier so that a Work Statement could be prepared. Sufficient questions about the camera system and uses of the rectified photography were raised to prevent this:

Persons in attendance were:

[redacted]
Dr. W. Mahoney, ACIC
[redacted]
Maj W. Williamson, SAFSS
Mr. B. Ashenbrenner, ITEK
Mr. McDougle, ITEK
Mr. J. Condin, ITEK
Mr. R. Angstreka, ITEK

[redacted] opened the meeting with a few brief remarks on the RADC development of the Universal Rectifier and stated that it appeared that this development was not applicable to satellite systems. He further stated that he hoped that this exploratory meeting could define the rectifier characteristics and the user needs so that a study contract work statement could be written

The approach advocated by ITEK would not provide resolution better than the current KH-4 system if a major part of the format is to be rectified as a single item.

It was obvious that no statement of user requirements could be stated until the H system is defined. In view of this, the meeting was terminated and no further action to initiate a rectifier contract will be attempted until after the H system is defined.

William E. Williamson
WILLIAM E. WILLIAMSON
Major, U.S.A.

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ENGTE-C

SUBJECT: Rectifiers for Follow-On System

TO: Director
Defense Intelligence Agency
ATTN: DIAMC
The Pentagon, Washington, D. C. 20301

1. Reference, DIAMC Message 2037-67, dated 17 March 1967, requesting Military Departments to submit, by 15 April 1967, requirements for rectification equipment to process photography from new satellite collection systems.

2. There will undoubtedly be a need for development of rectification equipment in order to apply photography from the new system to large scale mapping requirements. The Army has anticipated this need and has included in its preliminary internal budget planning the design, development and subsequent procurement of rectification equipment. This equipment will be integrated into Army's Universal Photogrammetric Data Reduction and Mapping System (UPDRAMS).

3. Meaningful studies to define equipment requirements cannot be initiated until the critical design characteristics of the total new data acquisition system are known. Information is required regarding such critical parameters as camera configurations, including focal lengths, formats, resolution values, modes of operation, forward lap or base-height ratios, and nominal orbit altitudes. To date this information is not available. These data, as related to both camera systems, will affect mapping procedures to be employed and to a large extent will dictate the design characteristics of needed rectifier equipment as well as other equipment in the UPDRAM system.

4. In view of the above, it is premature to postulate the specific nature of equipment requirements. Assurance that total DoD requirements will be met at minimum cost requires thorough analyses of the data acquisition system and the data reduction system. Through experience gained in the development of the UPDRAM systems, Army is fully capable to perform the needed studies and classified contracting to ensure maximum exploitation of new materials, especially to meet large scale mapping

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requirements. To permit early initiation of these studies the critical design characteristics of the new acquisition system are requested as soon as possible. Although this letter does not comply with your referenced message, Army will be able to answer your questions once the required design characteristics are received.

FOR THE CHIEF OF ENGINEERS:

T. J. HAYES
Major General, USA
Director of Topography
and Military Engineering

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BYE-70847-67

DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF SPECIAL PROJECTS (OSAF)
AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

22 November 1967

REPLY TO
ATTN OF: SP-1

SUBJECT: Interim Termination Report -- LMSS Program

TO: DNRO (Dr. Flax)

1. This report summarizes action taken by this office to dispose of LMSS Program hardware. Authorization from NASA for disposal of LMSS hardware "in the best interests of the Government and at least cost to NASA" is contained in a letter from Dr. Seamans dated 3 Oct 1967. (WHIG 6960.) Dr. Seamans' letter concluded a series of formal and informal discussions between NASA/DOD which examined various termination options and security constraints associated therewith. Hardware disposition -- as outlined below -- has the concurrence of both NASA and this office and is, at this time, in progress.

a. Disposition -- LMSS Program Assets

(1) Certain unclassified end items and piece parts to NASA as requested.

(2) Command System components, certain classified end items, various piece parts to on-going SAFSP Programs.

(3) Survey Cameras (6), Mapping Cameras (3) and Payload Modules (3) to classified DOD storage. The DOD contractors have agreed to store these items on a no-cost basis. The payload modules are a source of parts for the GAMBIT Program; the Mapping Cameras are being stored pending review by OSAF of NASA request to use on other NASA programs; and survey cameras are in interim storage pending any valid and approved usage. All hardware in storage will be screened for destruction or continued storage after one year. Funds (approximately $40K) to defray possible down stream disposition costs are being held in an account administered by this office.

(4) Classified hardware (other than 1a(3) above), for which there is no utilization within SAFSP, will be destroyed.

(5) All other hardware will be scrapped or disposed of through normal channels.

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(6) All program hardware procured by NASA from their contractors and delivered to DOD for LMSS is being returned as per their request.

(7) Program software and documentation is being retained by SAFSP and/or SAFSP contractors in accordance with standard operating procedures.

2. The Program Financial Report is shown in Attachment 1. No reimbursement to NASA by DOD or other agencies acquiring surplus LMSS hardware is anticipated. However, materials, raw stock, etc., being returned to the contractors or their vendors will appear as a credit to NASA in the final accounting and be additive to the $2.4M refund estimated in Attachment 1. This additional credit, though, will be small -- probably less than $100K. The estimated refund to NASA of $2.4M is the difference between funds received by DOD for LMSS and the estimated total cost of the program through completion of termination activities. $1.2M of the estimated refund was returned to NASA in the form of a reduction in this amount to O/A W 12112-Amendment 8. (CHARGE 9667, dated 14 Nov 1967). No further refunds will be made until termination has been completed.

3. On completion of termination, estimated to occur during the first quarter of CY 1968 a final report will be issued.

JOHN L. MARTIN, JR
Brigadier General, USAF
Director

1 Atch
Fin Rpt

BYE-70847-67
Attch 1, cy 1

FINANCIAL REPORT

(In Millions of Dollars)

	Investment as of 15 Aug 67	Total Estimated Cost at Compl of Termination (O/A 31 Jan 68)	Remarks
1. Survey Camera	12.194	12.437	Est Close-out 31 Jan 68
2. Mapping Camera	0.658	0.703	Completed 1 Oct 67
3. Payload Module	9.700	10.111	Est Close-out Term 31 Jan 68
4. CMD System	1.663	1.597	Completed Jul 67
5. Software	.590	.600	Completed M S II 15 Aug 67
6. Aerospace	.414	.430	Complete 1 Oct 67
7. Misc and Contingencies	.015	.050	Open to Indef
8. Prior Compl/Term	3.752	3.752	Closed
	28.986	29.680	

NASA Funds Received	32.070
Est Total Cost	29.658
Est Refund to NASA	2.412 *

* Note: 1.2 of this has been returned to NASA (MSC) (CHARGE 9667 14 Nov 67)

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CENTRAL INTELLIGENCE AGENCY

WASHINGTON 25, D. C.

OFFICE OF THE DIRECTOR

19 September 1967

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The Honorable Alexander Flax
Director, National Reconnaissance Office
Department of Defense
Washington, D.C.

Dear Al:

On 23 February 1967 you forwarded to me a report prepared by a group convened under your auspices to study and recommend security criteria for NRP equipment which might be made available to NASA. This report was undertaken in response to Recommendation #7 of the NSAM 156 Ad Hoc Committee's report of 11 July 1966 and you will recall that I delayed taking action with respect to the report of your group because of possible conflict with a proposed NASA program to use a GAMBIT camera in earth orbit. In light of your letter of 22 August 1967 advising of NASA's action to terminate this particular program, I hereby approve the findings and recommendations of the report transmitted by your letter of 23 February 1967 and believe that this report should be used as a basis for NRO dealings with NASA on equipment and technology. I am sending a copy of the report to the Chairman of the NSAM 156 Ad Hoc Committee and to each member.

Sincerely,

Dick

Richard Helms
Director

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