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MONTHLY PROGRESS REPORT

DECEMBER 1984

COMMERCE LAB: MISSION ANALYSIS
PAYLOAD INTEGRATION STUDY

NASA CONTRACT NUMBER NAS8-36109

Prepared for

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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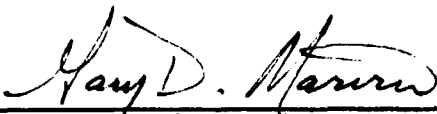
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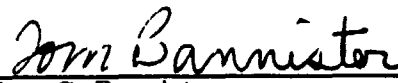
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**PROGRAM MONTHLY STATUS REPORT
FOR DECEMBER 1984
FOR
COMMERCE LAB: MISSION ANALYSIS
PAYLOAD INTEGRATION STUDY**

NASA CONTRACT NO. NAS8-30109

A. PROGRAM DESCRIPTION

The Commerce Lab mission analysis and payload integration study will develop a mission model which will accommodate commercial users and provide a basic data base for future mission planning. The data bases to be developed under this study will be (1) user requirements, (2) apparatus capabilities and availabilities, and (3) carrier capabilities. These data bases will be synthesized in a trades and analysis phase along with the STS flight opportunities, and optimum missions will be identified. During the mission planning phase of the study, the final manifesting activities will be performed.

B. WORK COMPLETED DURING DECEMBER

Based on feedback from the Microgravity Science Requirements Definition Workshop held in Washington, D. C., on December 10 and 11, 1984, and meetings with NASA personnel, particularly Mr. John Williams and Mr. Harry Atkins of MSFC, several activities were accomplished:

1. The various data bases, which include user requirements, apparatus, and carrier capabilities, have been refined and expanded. All have been put on computer to enable rapid and efficient updating as the need arises.
2. The data bases as well as the methodology logic diagrams, have been compiled into a single document, Appendix A to the Commerce Lab Interim Progress Report. This draft appendix was published on December 7, 1984, using the latest information available.
3. The Interim Progress Report was published on December 6, 1984. Using charts, diagrams, and graphs, the report expands upon these with brief narratives and presents Commerce Lab in a logical and easy to understand flow. In accordance with our contract, 25 copies were delivered to the COR and 10 copies to JA-01. In addition, eight copies were delivered to NASA Headquarters.
4. At the request of NASA, two presentations were given during December. These were as follows:
 - a. A one-hour presentation was made to the Wyle-sponsored Definition of Microgravity Science Requirements Workshop on December 10, 1984, in Washington, D. C.

- b. A one-hour presentation was made to NASA Headquarters (Mr. Sander et al) on December 11, 1984, in Washington, D. C.

Both presentations provided an over view of the Commerce Lab study, the developed data bases, results to date, and integration considerations. Included was a modular rack/modular container concept that has the potential of reducing user interaction and integration time.

5. Initial planning for a Commerce Lab seminar was undertaken. Proposed as a means to acquaint the commercial user community with Commerce Lab and the STS system capabilities and opportunities, the seminar would bring together commercial users and NASA engineers and scientists. Definitive discussions could be held to scope out the requirements and possibilities for future mission planning of commercial payloads.

C. SCHEDULE

The attached program schedule for the Commerce Lab study program (exhibit A) depicts the relative status of each major program activity and the schedule for the various reports. Progress through December was as follows:

1. Use: Requirements, Apparatus, and Carrier Capabilities

This group of activities is completed. However, it has been emphasized throughout the study that these data bases will be updated as additional data and information is discovered. These activities will be receiving less resources with the emphasis shifting to the remaining tasks.

2. Approach, Trades, and Analysis

The development of the technical approach, including the flow diagrams and logic network to be used in the trades and analysis task and the mission planning task, has been finalized. The application began in December and will continue through February.

3. Commerce Lab Mission Planning, etc.

This activity, as indicated on the program schedule, commenced in December. Although the main effort for December through February is the trades and analysis, mission planning will become an ever increasing part of the study and will result in a mission model.

4. Reports

Reports are as shown on the schedule. The Interim Report was released on December 6, 1984. Appendix A draft was released on December 7, 1984. The second Interim Report is scheduled for release in February.

D. POTENTIAL PROBLEMS

No potential problems have been identified.

E. WORK PROJECTED IN THE NEXT REPORTING PERIOD

During January, the work on the first major activity of the study (requirements/capabilities data base) will be limited to updates as necessary. The primary thrust will be in the Trades and Analysis activity. Work in the Mission Planning area will also continue, and initial work on a Mission Model will commence.

No presentations are planned for January at this time although the presentation given to NASA Headquarters can be repeated at any time. Presentation graphics will be updated as required to maintain a current base of information.

F. ACTION ITEMS REQUIRED TO CUSTOMER

1. Coordinate a Commerce Lab seminar as necessary.
2. Maintain a dialogue concerning modular rack concept development and design.

G. CHANGE OF SCOPE

None identified at this time.

Exhibit A

PROGRAM SCHEDULE

ACTIVITY DESCRIPTION	MONTHS OF CONTRACT											
	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
USER REQUIREMENTS, APPARATUS, & CARRIER CAPABILITIES	[Solid black bar]											
APPROACH, TRADES & ANALYSIS	[Solid black bar]											
COMMERCE LAB MISSION PLANNING	[Solid black bar]											
MISSIONS OF OPPORTUNITY PARTIAL MISSIONS DEDICATED MISSIONS	[Solid black bar]											
REPORTS:	[Solid black bar]											
TECHNICAL LETTER REPORT	[Solid black bar]											
INTERIM REPORT	[Solid black bar]											
ORAL REPORTS	[Solid black bar]											
MISSION MODEL	[Solid black bar]											
INFRASTRUCTURE TRIAL APPROACHES	[Solid black bar]											

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