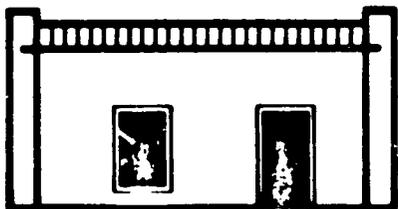
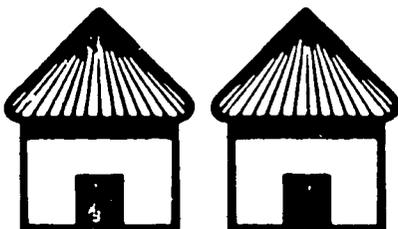


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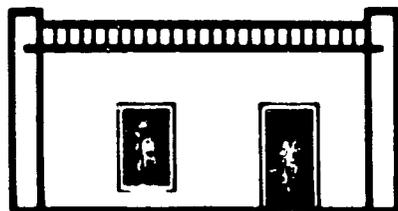
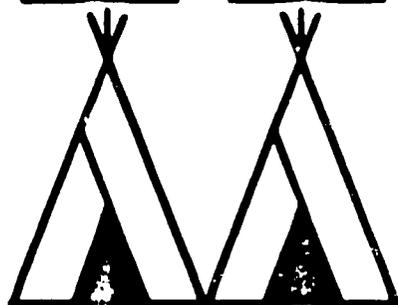
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**MANAGEMENT
REPORT**



**SOLAR CELL
POWER SYSTEM
DEMONSTRATION
PROJECT
FOR UPPER VOLTA**



AUGUST 1978

**LEVELS 2 & 3
FOR OFFICIAL USE ONLY**

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

MANAGEMENT
REPORT

**SOLAR CELL
POWER SYSTEM
DEMONSTRATION
PROJECT
FOR UPPER VOLTA**

AID/NASA
INTERAGENCY
AGREEMENT
DSB-0234-2-78

Accomplishment: William J. Bifano AUGUST 31, 1978
Date

Approval: [Signature] AUGUST 31, 1978
Date

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION - LEWIS RESEARCH CENTER

CENTER Lewis Research Ctr.

RESPONSIBILITY:

APPROVAL L. Rosenblum

ACCOMPLISHMENT W. Bifano

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SYSTEM DEMONSTRATION
FOR UPPER VOLTA

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- 3.0 Activities
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- 5.0 Project Management
- 6.0 Project Schedules
- 7.0 Financial Status
- Distribution List

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<p>1.0 <u>INTRODUCTION AND BACKGROUND</u></p> <p>The Solar Cell Power System Demonstration Project for Upper Volta is to be implemented by the NASA Lewis Research Center (LeRC) for the U.S. Agency for International Development (AID) in support of their project entitled, "Studies of Energy Needs in the Food System," the purpose of which is to determine the socio-economic effects of reducing the daily time required by women of the village of Tangaye to draw water and grind cereal grain, their primary source of food.</p> <p>A Participating Agency Service Agreement (PASA No. NASA DSB-0234-2-78) authorizing this project was signed by AID April 11, 1978, and approved by NASA April 28, 1978. Under this agreement \$55K of FY 78 funds were provided by AID on May 24, 1978. An additional \$55K increment is scheduled for the fourth quarter of FY 78, bringing the total funding for this project to \$110K. The LeRC is supplying 1.5 person years for FY 78 on a non-reimbursable basis. AID will reimburse LeRC for 0.4 person years in FY 79 for operational monitoring of the system.</p> <p>2.0 <u>OBJECTIVES</u></p> <p>The objective of this project is to provide a reliable solar cell power system designed for maximum generation and utilization of solar electrical energy with minimum attendant maintenance. The system is to be sized to deliver sufficient power to meet the AID overall objective of demonstrating the potential of solar energy as a power source for common village tasks. For the village of Tangaye, where the project is to be implemented, a 1.8 kW (peak) solar cell power system providing approximately 5,000 liters per day water pumping and 8 hours per day grain grinding will meet the AID objective.</p>		

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The objectives and task descriptions for the project areas are delineated in the revised Project Plan dated June 13, 1978 (transmitted to AID July 19). The demonstration experiment will be monitored by LeRC for one year following completion of the installation. During this time an AID appointed anthropologist will conduct a socio-economic study to determine village consumption patterns for water and milled grain and time utilization.

The Project Management Function at the LeRC is being performed by the Terrestrial Photovoltaic Project Office in the Solar and Electrochemistry Division of the Energy Programs Directorate. Mr. William J. Bifano is the LeRC project manager.

3.0 ACTIVITIES

The activities required to accomplish the Plan objectives are:

1. System Design
2. Procurement, Fabrication and Delivery
3. Checkout Tests
4. Shipping
5. System Installation and Checkout
6. System Operation
7. Monitoring, Data Acquisition and Reporting

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4.0 SUMMARY OF ACTIVITIES

4.1 System Design

The review of the system design by the Office of Reliability & Quality Assurance was completed. The results will be reported next month.

Final details of the pump mount for the well were completed.

4.2 Procurement, Fabrication and Delivery

The 100 modules which had been inspected at LeRC were assembled and wired into 4' x 8' panels by DIKU, Inc., a local contractor. The performance of each panel was measured at DIKU using a flash simulator. The panels were then returned to LeRC where fabrication of shipping crates was initiated.

All the structural material (Super-Strut) to build the panel support structure was ordered. It will be delivered in early September.

Fabrication of the control box was completed.

Fabrication of the instrumentation box was initiated. Completion is scheduled for September 5.

4.3 Checkout Tests

The control box was installed in the Systems Test Facility. The instrumentation box will be installed on September 5, and the system including the grinder and water pump will be exercised to verify performance.

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4.4 Shipping

The shipping container (8' x 8' x 20') was delivered to LeRC and preparation of packing lists and packing crates was begun. The container is scheduled to leave LeRC on September 20 and be shipped from New York on September 29 via the Farrell Lines on the "African Comet," (shipping order No. 27316) due to arrive in Abidjon October 20.

4.5 System Installation and Checkout

According to Dr. Bosken, Tom Luche, AID/UV, has received the assurance of the village chief that the grinder/battery building will be built on schedule. Also, AID/UV will initiate procurement of the water storage tank and dispensing facility as soon as AID funds are made available.

4.6 System Operation

A contract for the preparation of the User Manual was awarded August 15 to Booz-Allen. The manual will consist of two volumes. An outline for the operation and maintenance manual (vol. 2) was received and is being reviewed.

5.0 PROJECT MANAGEMENT

The \$75K obligational authority is exhausted. The additional \$55K increment from AID is required as soon as possible.

All work at LeRC (fabrication, system checkout, packaging) is on schedule to meet shipment from LeRC on September 20.

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NARRATIVE ANALYSIS

PROJECT: SOLAR CELL POWER
SYSTEM DEMONSTRATION
FOR UPPER VOLTA

2&3
LEVEL

STATUS AS OF August 31, 1978
(DATE) (INITIALS)

A meeting was held on August 3 at AID/W with Jacobs/Bosken (AID) and Rosenblum/Palmer/Bifano (LeRC). The LeRC background and experience in photovoltaics, and a proposal for LeRC support of AID-Office of Energy objectives were presented.

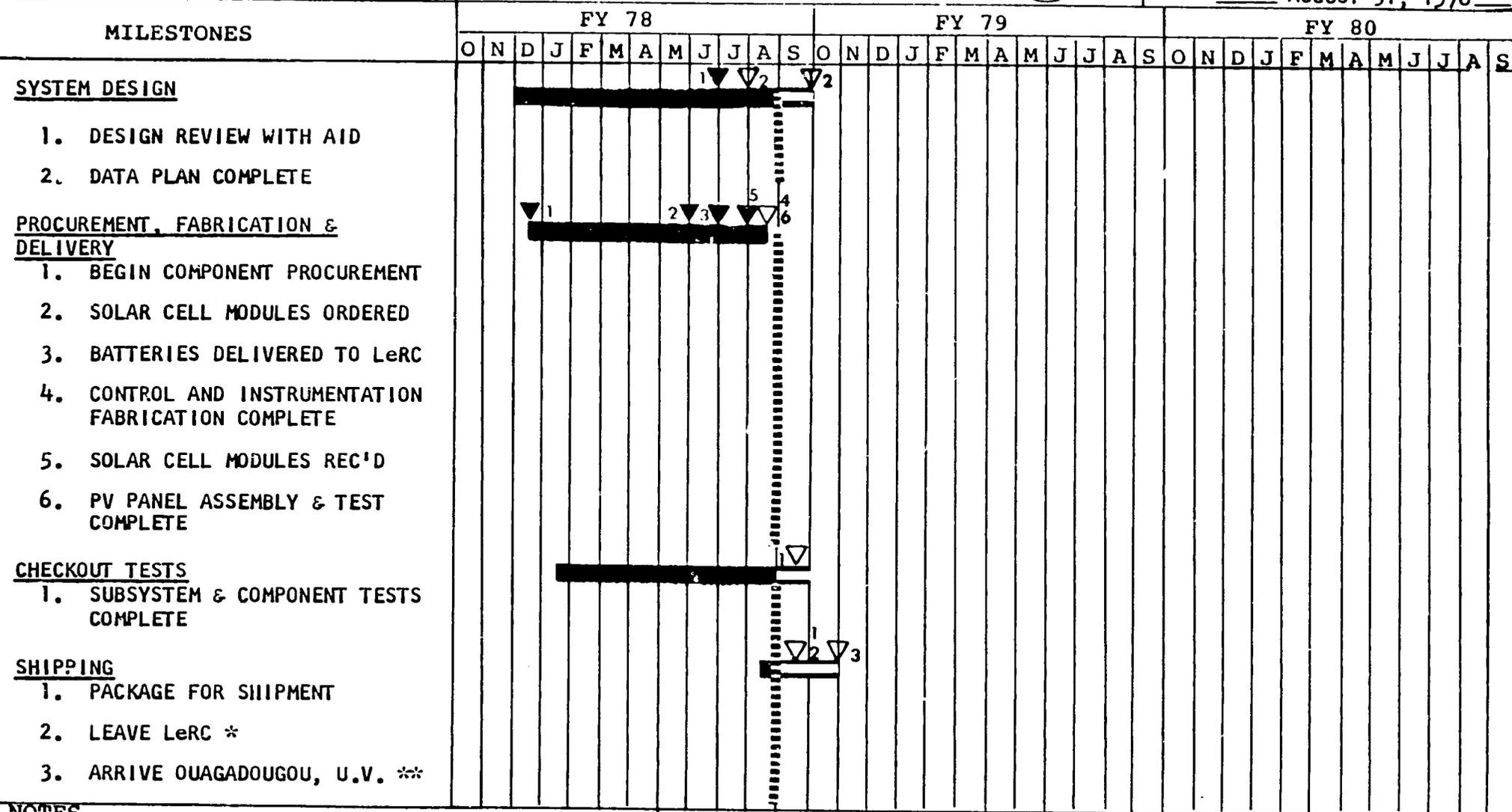
A meeting is scheduled for September 6 with Tom Luche (AID/UV), Bill Bifano and Tony Ratajczak (LeRC) at AID/W to discuss installation schedule, logistical support, user training and other details relative to the system installation.

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MASTER PROGRAM/PROJECT SCHEDULE
 SOLAR CELL POWER SYSTEM DEMON-
 STRATION FOR UPPER VOLTA

2&3
 LEVEL

ORIGINAL SCHEDULE
 APPROVAL _____
 LAST SCHEDULE CHANGE _____
 STATUS AS OF _____
 AUGUST 31, 1978



NOTES

* ESTIMATE 4 WEEKS USA TO ABIDJON; COULD BE AS HIGH AS 10 WEEKS

** OUAGADOUGOU TO TANGAYE SHIPMENT - INCREMENTAL DURING INSTALLATION

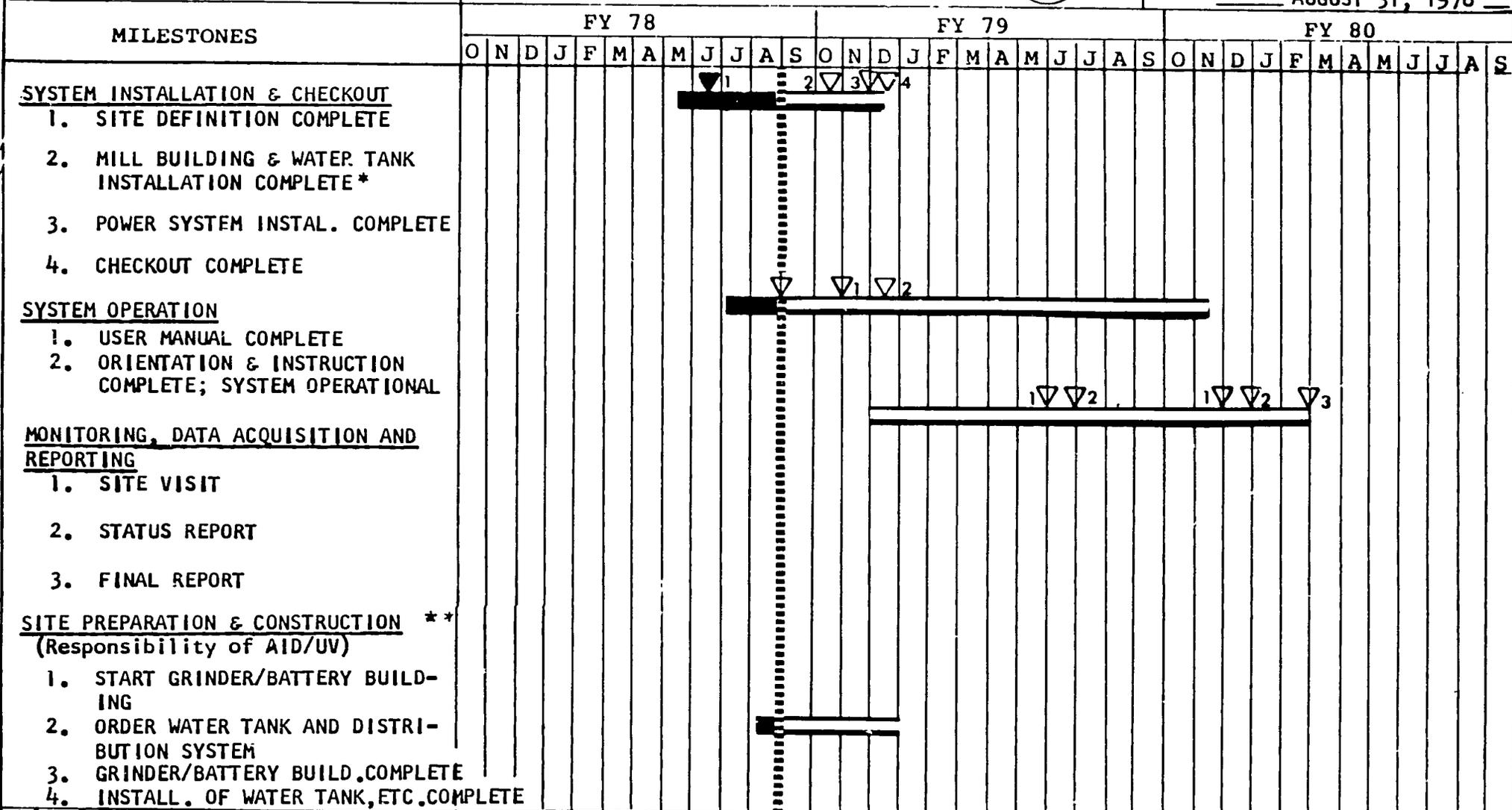
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MASTER PROGRAM/PROJECT SCHEDULE
 SOLAR CELL POWER SYSTEM DEMON-
 STRATION FOR UPPER VOLTA

2&3
 LEVEL

ORIGINAL SCHEDULE
 APPROVAL _____
 LAST SCHEDULE CHANGE _____
 STATUS AS OF
_____ AUGUST 31, 1978 _____



NOTES

* RESPONSIBILITY - AID/UV. SCHEDULE DATE SHOWN FOR THIS ITEM IS NEEDED IN ORDER FOR LeRC TO COMPLETE SYSTEM INSTALLATION.

▼ RESCHEDULED MILESTONE

** SCHEDULE FOR THIS ACTIVITY TO BE DISCUSSED AT SEPTEMBER 6 MEETING IN WASHINGTON BETWEEN LUCHE (AID/UV), BIFANO AND RATAJCZAK (LeRC).

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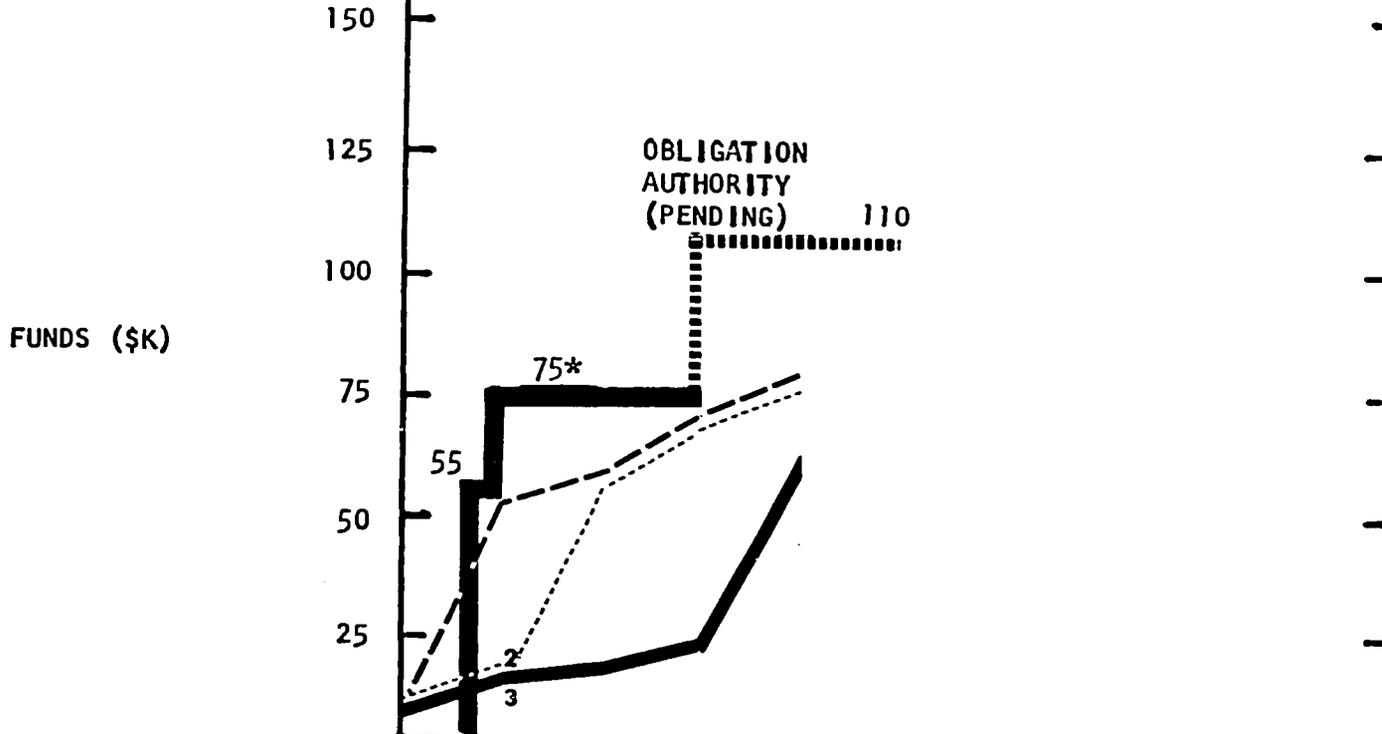
FINANCIAL STATUS

SOLAR CELL POWER SYSTEM
DEMONSTRATION FOR UPPER VOLTA



STATUS AS OF AUGUST 31, 1978

(DATE) (INITIALS)



	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB
OBLIGATION AUTHORITY	55	75*	75*	75*						
1 COMMITMENTS	50.7	58.6	69.1	75.3						
2 OBLIGATIONS	17.0	58.4	68.9	75.0						
3 COSTS	15.3	17.1	21.4	56.2						

* NASA advanced 20K pending receipt of additional 55K from AID.

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PROJECT: SYSTEM DEMONSTRATION
FOR UPPER VOLTA

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