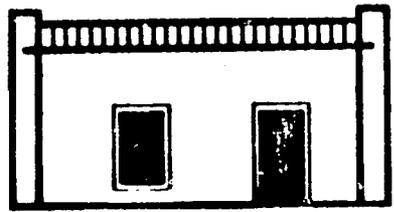


9310234-1
PD-AAL-832-A1

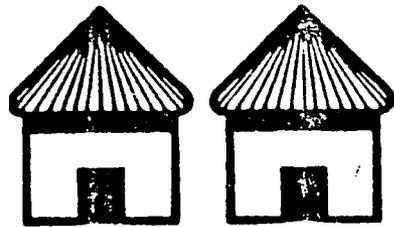
AID Project no. 931-0234

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

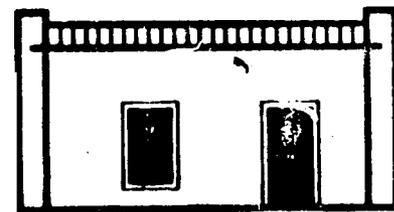
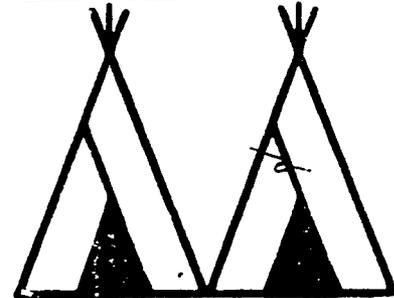
9310234004101



**MANAGEMENT
REPORT**



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



NOVEMBER 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 December 20, 1978
Date

Approval: [Signature] December 20, 1978
Date

CENTER Lewis Research Ctr.

RESPONSIBILITY:

APPROVAL L. Rosenblum

ACCOMPLISHMENT W. Bifano

TABLE OF CONTENTS

SOLAR CELL POWER

2&3
LEVEL

PROJECT: SYSTEM DEMONSTRATION
FOR UPPER VOLTA

- 1.0 Introduction and Background
- 2.0 Objective
- 3.0 Activities
- 4.0 Status of Activities
- 5.0 Project Management
- 6.0 Project Schedules
- 7.0 Financial Status
- Distribution List

<p>CENTER <u>Lewis Research Ctr.</u></p> <p>RESPONSIBILITY:</p> <p>APPROVAL <u>L. Rosenblum</u></p> <p>ACCOMPLISHMENT <u>W. Bifano</u></p>	<p style="text-align: center;">NARRATIVE ANALYSIS</p> <p style="text-align: center;">PROJECT: SOLAR CELL POWER 2&3 LEVEL SYSTEM DEMONSTRATION FOR UPPER VOLTA</p>	<p>STATUS AS OF <u>November 30, 1978</u></p> <p style="text-align: center;">(DATE) (INITIALS)</p>
--	--	---

1.0 INTRODUCTION AND BACKGROUND

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.

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.

2.0 OBJECTIVES

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>CENTER <u>Lewis Research Ctr.</u></p> <p>RESPONSIBILITY:</p> <p>APPROVAL <u>L. Rosenblum</u></p> <p>ACCOMPLISHMENT <u>W. J. Bifano</u></p>	<p style="text-align: center;">NARRATIVE ANALYSIS</p> <p style="text-align: center;">PROJECT: SOLAR CELL POWER 2&3 LEVEL SYSTEM DEMONSTRATION FOR UPPER VOLTA</p>	<p>STATUS AS OF <u>November 30, 1978</u></p> <p style="text-align: center;">(DATE) (INITIALS)</p>
---	--	---

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

<p>CENTER <u>Lewis Research Ctr.</u></p> <p>RESPONSIBILITY:</p> <p>APPROVAL <u>L. Rosenblum</u></p> <p>ACCOMPLISHMENT <u>W. J. Bifano</u></p>	<p style="text-align: center;">NARRATIVE ANALYSIS</p> <p style="text-align: center;">SOLAR CELL POWER LEVEL</p> <p>PROJECT: SYSTEM DEMONSTRATION FOR UPPER VOLTA</p>	<p>STATUS AS OF <u>November 30, 1978</u></p> <p style="text-align: center;">(DATE) (INITIALS)</p>
---	---	---

4.0 SUMMARY OF ACTIVITIES

4.1 System Design

All changes as a result of system tests in the STF are being incorporated in the final revision of the drawings.

4.2 Procurement, Fabrication and Delivery

A draft of the users manual, Volume I, was received from Booz-Allen and reviewed at LeRC. A copy was also forwarded to Grace Hemmings for review. Her comments have been incorporated into the draft. All comments were reviewed with Booz-Allen and they are now preparing the final camera-ready copy. The operation and maintenance manual draft, Volume II, has been reviewed at LeRC.

4.3 Checkout Tests

Testing of the DAT-3 continued through November. Some additional software problems surfaced which had not been anticipated. These were due to replacement printed circuit cards supplied by the manufacturer. Correction of these problems are in hand and testing will be completed by December 8.

4.4 Shipping

Cable 10921, dated November 24, stated that the shipment was signed out of Abidjon on November 7 and arrived in Ouagadougou on November 12. A second cable, #5438 dated November 28, noted that the shipment was still in customs in Ouagadougou awaiting normal processing. No customs difficulties were anticipated.

<p>CENTER <u>Lewis Research Ctr.</u></p> <p>RESPONSIBILITY:</p> <p>APPROVAL <u>L. Rosenblum</u></p> <p>ACCOMPLISHMENT <u>W. J. Bifano</u></p>	<p style="text-align: center;">NARRATIVE ANALYSIS</p> <p style="text-align: center;">SOLAR CELL POWER LEVEL</p> <p>PROJECT: SYSTEM DEMONSTRATION FOR UPPER VOLTA</p>	<p>STATUS AS OF <u>November 30, 1978</u></p> <p style="text-align: center;">(DATE) (INITIALS)</p>
<p>4.5 System Installation and Checkout</p> <p>AID/UV cable 5438 dated November 28, informed us that the water tank was fabricated and installed and that the mill building is 70% complete. The cable further recommended that NASA personnel not depart for Upper Volta until AID/UV confirms that all necessary equipment for installation of the solar system has cleared customs. LeRC concurs with this recommendation and will await notice from AID/UV before sending the installation team. The entrance embargo on U.S. citizens is still in effect in Upper Volta. AID/UV will request an exception from the Ambassador for the LeRC installation personnel.</p> <p>5.0 <u>PROJECT MANAGEMENT</u></p> <p>As noted in the previous MICS report, our \$75K obligation authority was exhausted as of August. The additional \$55K increment from AID is required as soon as possible.</p>		

CENTER Lewis Research Center

FINANCIAL STATUS

RESPONSIBILITY:

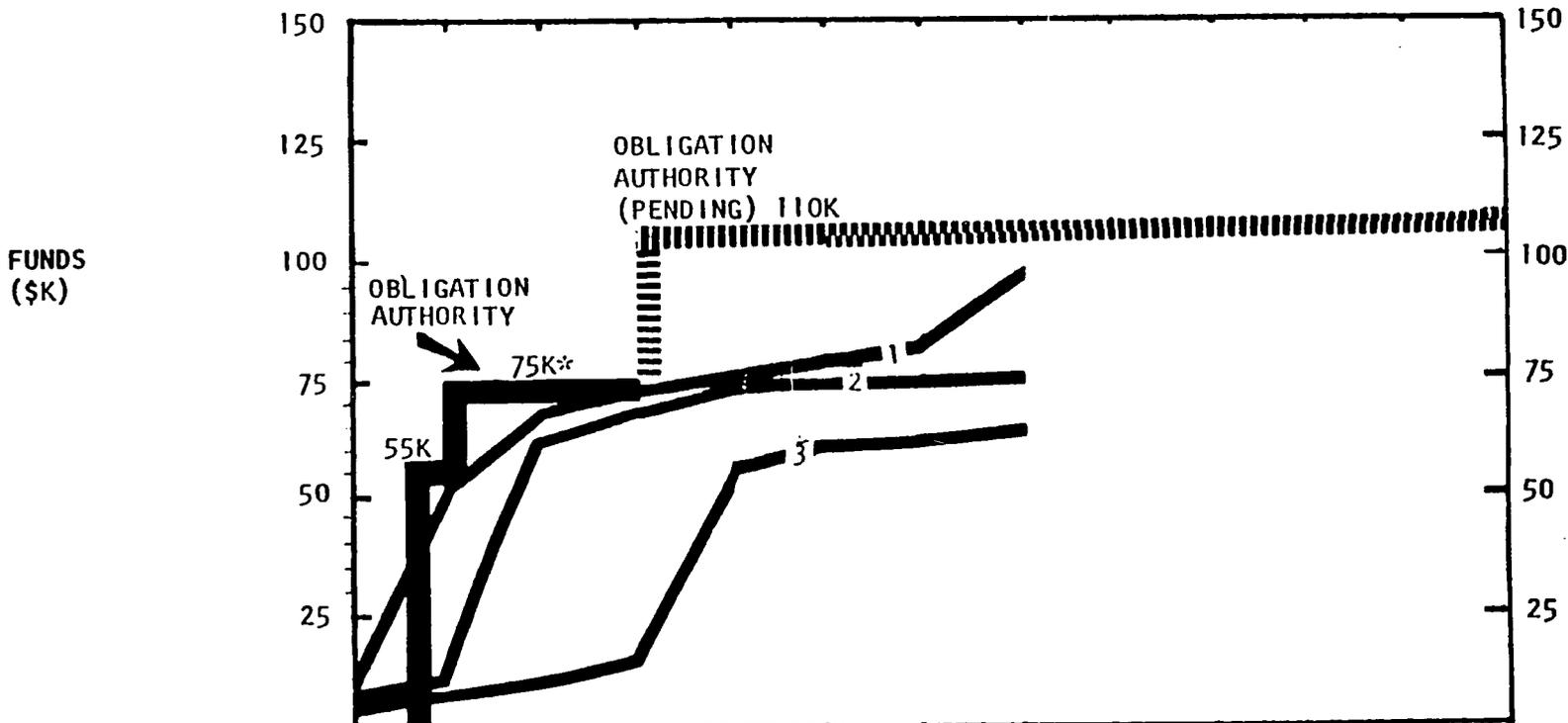
APPROVAL L. Rosenblum

ACCOMPLISHMENT W. Bifano

283
LEVEL

PROJECT: SOLAR CELL POWER SYSTEM
DEMONSTRATION FOR UPPER VOLTA

STATUS AS OF November 30, 1978
(DATE)



	Cumulative											
	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	Commitments (Actual)	50.7	58.6	69.1	75.3	75.8	81.7	99.1				
2	Obligations (Actual)	17.0	58.4	68.9	75.0	75.0	75.0	75.0				
3	Costs (Actual)	15.3	17.1	21.4	56.2	58.2	58.2	59.3				

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

CENTER Lewis Research Ctr.

RESPONSIBILITY:

APPROVAL L. Rosenblum

ACCOMPLISHMENT W. Bifano

DISTRIBUTION

PROJECT: SOLAR CELL POWER
SYSTEM DEMONSTRATION
FOR UPPER VOLTA

2&3
LEVEL

AGENCY FOR INTERNATIONAL DEVELOPMENT

W. Roseborough, AID/W
A. Jacobs, AID/W
J. Bosken, AID/W
K. Burke, AID/W
J. Blumgart, AID/W
S. Klein, AID/W
H. Diaz, AID/W
T. Luche, AID/UV
J. Hoskins, AID/UV

NASA HEADQUARTERS

R-14/D. A. Beattie
RG-14/R. I. LaRock
RG-14/H. K. Strass
RG-14/J. C. Loria (3 copies)
LID-18/L. Shaffer

NASA LEWIS RESEARCH CENTER

J. F. McCarthy, Jr. 3-2
B. Lubarsky 3-3
G. M. Ault 3-5
H. O. Slone 3-15
E. A. Richley 3-15
J. F. Connors 3-6
W. T. Olson 3-16
V. Hlavin 3-10
L. Rosenblum 49-5
P/V Project Office 49-5
(16 copies)
D. R. Packe 500-125
P. Foster 7-3
R. Harsany 6-7
H. Nicholson 16-1
J. Zimmerman 500-302
D. Thoennes 301-1
D. Bily 21-9
D. Keliher 21-6
W. Ice (3 copies) 21-6
L. Schopen 500-305
C. Skony 50-2
F. Rooker 500-211
L. Brown 302-1
H. Moore, Jr. 500-302