

PDAAR-083

IAN 39367

**ENERGY CONSERVATION SERVICES PROGRAM:
FIRST QUARTERLY REPORT
(9/15/83 - 12/15/83)**

HBC Reference No. 84-150

Prepared for:

**Office of Energy
U.S. Agency for International Development
Washington, DC 20523**

Prepared by:

**Hagler, Bailly & Company
2301 M Street, NW
Washington, DC 20037**

January 12, 1984

USAid File

Hagler, Bailly & Company

Consultants to Management

2301 M Street, N.W.

Washington, D.C. 20037

(202) 463-7575

Telex: 710-822-1150

Henri-Claude Bailly

President

January 12, 1984

Ms. Pamela Baldwin
U.S. Agency for International Development
Office of Energy
Annex 18, Room 508
Washington, DC 20523

Dear Pam:

Enclosed find a draft of our first quarterly report as stipulated in Article I -- Reporting Requirements of our ECSP contract. I have attempted to keep this report (and the coming ones) concise to increase the chances that it will be read and to minimize costs.

Please let me know your comments. I will then make the changes, if any, and send you 10 final copies for distribution.

Sincerely yours,

Henri-Claude

Enclosure: Draft Quarterly Report

2

CONTENTS

Summary

Activity Reports:

- Program Management and Development
- Energy Demand Management and Conservation Training Course
- Technology Transfer for Energy Management Project Paper
- Data Base Development for AID Energy Efficiency Projects
- Preparation of an Energy Audit Manual

SUMMARY

The Energy Conservation Services Program (ECSP) provides a broad range of technical advisory services, training, and information dissemination activities to AID-assisted developing countries.* The objective of this four-year program is to promote energy conservation in industry, transportation, electric power generation and transmission, and in the design and operation of commercial and institutional buildings. On September 15, 1983, U.S. AID contracted with Hagler, Bailly & Company (prime contractor) and Reliance Energy Services (subcontractor) to provide technical and management assistance to the program.

The first quarter of activities ended on December 16, 1983. During this period, five distinct activities were initiated as summarized on Exhibit 1. The emphasis during the first quarter was placed on (a) the organization of an intensive 2-week training course on energy conservation which was held in Colombo, Sri Lanka from December 7-17, 1983, and (b) the preparation of a Project Paper on the Technology Transfer for Energy Management Project with the U.S. AID mission in the Philippines. A total of 16 professional person weeks were spent in Sri Lanka and the Philippines. (Refer to each quarterly activity report for details).

Quarterly expenditures were \$132,613 or 6.7 percent of the contract budget as shown on Exhibit 2. Other direct expenses which include report production and printing expenses are running substantially higher than envisioned due to the nature of the activities. With the initiation of the second phase of activities in Sri Lanka (auditing course, feasibility studies, project evaluation training), the estimated ECSP financial commitment to date, as shown on Exhibit 3, is on the order of \$415,000 with other sources contributing \$175,000 to the various activities.

*This program is part of the Energy Policy Development and Conservation Project.

SUMMARY OF FIRST QUARTER ACTIVITIES

<u>Activity</u>	<u>Period of Performance</u>	<u>Budget</u>	<u>Expenditures (12/16/83) (1)</u>
Program management and development including preparation of in-country missions and feasibility study of directory of energy saving equipment	On-going	None	\$ 8,908
Organization, preparation and presentation of 2-week energy demand management and conservation training course in Sri Lanka for Ministry of Power and Energy	10/10/83-12/30/83	\$124,131	77,696
Preparation of Technology Transfer for Energy Management Project Paper with U.S. AID/Philippines and Ministry of Energy/Bureau of Energy Utilization	9/15/83-4/15/84	133,000	39,375
Development of a data base on AID-funded energy conservation projects and preparation of a concept paper on the feasibility of a computer-based energy information system to support the ECSP	10/8/83-2/6/84	14,451	5,688
Preparation of energy audit manual for Sri Lanka energy auditing course scheduled for March 1984	10/21/83-2/27/84	38,465	945

(1) Based on labor costs incurred and invoices received only.

FIRST QUARTER EXPENDITURES -- SUMMARY

	<u>Contract Budget (1)</u>	<u>Quarterly Expenditures (2)</u>	<u>% of Contract Budget</u>
Salaries	\$ 344,063	\$ 38,214	11.1
Fringe Benefits	89,456	9,979	11.1
Overhead	390,168	43,375	11.1
Travel	274,722	8,782	3.2
Other Direct Costs	41,200	7,738	18.8
Equipment	50,000	0	0
Subcontractor	<u>667,348</u>	<u>16,244</u>	<u>2.4</u>
Total Estimated Costs	\$1,856,957	\$124,332	6.7
Fixed Fee	<u>123,698</u>	<u>8,281</u>	<u>6.7</u>
TOTAL ESTIMATED COSTS AND FIXED FEE	\$1,980,655	\$132,613	6.7

(1) Only \$370,000 has been obligated so far

(2) Based on labor costs incurred and invoices received as of 12/16/83

1983/1984 ECSP-RELATED ACTIVITIES
Estimated Financial Commitments

<u>ACTIVITIES (SCHEDULE)</u>	<u>TOTAL</u>	<u>ECSP</u>	<u>OTHER SOURCES</u>
1. Sri Lanka Phase I (9/15/83-12/30/83)	\$125,000	125,000	0
2. Sri Lanka Phase II (10/21/83-5/31/84)	211,000	151,000	60,000 (USAID/Col.)
3. Philippines Project Paper (9/15/83-4/15/84)	133,000	63,000	70,000 (USAID/Phil.)
4. AID Project Data Base/EMIS (10/8/83-2/1/84)	15,000	15,000	0
5. Non-AID Project Data Base (1/1/84-3/1/84)	20,000	0	20,000 (DOE/OIP DOE/BCS)
6. Equipment Directory (2/1/84-5/1/84)	50,000	25,000	25,000 (DOE/OIP)
7. Project Management and Development (9/15/83-9/15/84)	36,000	36,000	0
TOTAL	\$590,000	\$415,000	\$175,000

U.S. AID ENERGY CONSERVATION SERVICES PROGRAM
(Contract Number: DAN-5728-C-00-3073-00)

QUARTERLY ACTIVITY REPORT
(for period: 9/15/83-12/15/83)

ACTIVITY: Program Management and Development

COUNTRY: Not country specific

START DATE: 9/15/83 **COMPLETION DATE:** On-going

BUDGET: None **Quarterly Expenditures:** \$8,908
Cumulative Expenditures: \$8,908

ST/EY Manager: Pamela Baldwin

HBC Manager: H-C Bailly **HBC Reference:** 150-151

DESCRIPTION

This activity consists of the various management tasks associated with the execution of the contract -- e.g., progress review meetings and preparation of quarterly reports. It includes also planning activities associated with new initiatives. These initiatives are either triggered by the field or the regional bureaus or directly by ST/EY. (Some of these initiatives become eventually separate activities for program management purposes). The first quarter initiatives (in addition to those which are already treated as separate program activities) included:

- Preparation of a two-week mission to Morocco in response to a request from the Near East Bureau and AID/Rabat. The mission originally scheduled for early January has been postponed. The purpose of the mission is to assist the Energy Planning project in identifying energy conservation targets and initiatives.
- Preparation of a two-three week mission to Jordan in response to a request from the Near East Bureau and AID/Amman. The purpose of the mission is to scope out AID's role in energy conservation in light of World Bank-sponsored activities. The mission originally scheduled for late January has also been postponed.

- Assistance to the Bureau for Latin America and the Caribbean and U.S. AID/Ecuador in identifying one or two industrial energy conservation experts for the National Energy Institute.
- Preparation of the scope of a feasibility study to compile and publish a directory of energy saving equipment for AID-assisted countries.
- Coordination with the Department of Energy in the preparation of an inventory of industrial and building energy conservation activities sponsored by the World Bank, the Asian Development Bank, UNIDO, IEA, OECD and the Commission of European Communities in non-industrialized nations.

ACTIVITY REPORTS

1. Bi-weekly activity and expenditure summary reports.
2. Preliminary proposal to undertake a feasibility study for a directory of energy-saving equipment. Draft working paper (15 pages).

KEY PERSONNEL

- Hagler, Bailly & Company: Henri-Claude Bailly, President.
- U.S. AID: James Bever, Bureau for Near East; Robert Archer, Bureau for Latin America and the Caribbean.

EXPENDITURES

(as of 12/16/83 based on labor costs incurred and invoices received):

	<u>This Quarter</u>	<u>Cumulative</u>
Salaries	\$2,198	\$2,198
Fringe Benefits	615	615
Overhead	2,532	2,532
Travel/Trans/Per Diem	62	62
Other Direct Costs	393	393
Equipment	0	0
Subcontractor	<u>2,552</u>	<u>2,552</u>
Total	\$8,352	\$8,352
Fee	556	556
GRAND TOTAL	\$8,908	\$8,908

U.S. AID ENERGY CONSERVATION SERVICES PROGRAM
(Contract Number: DAN-5728-C-00-3073-00)

QUARTERLY ACTIVITY REPORT
(for period: 9/15/83 - 12/15/83)

ACTIVITY: Energy Demand Management and Conservation Training Course (contract Task Area 4)

COUNTRY: Sri Lanka

START DATE: 10/10/83 **COMPLETION DATE:** 12/30/83

BUDGET: \$124,131 **Quarterly Expenditures:** \$77,696
Cumulative Expenditures: \$77,696

ST/EY Manager: Pamela Baldwin

HBC Manager: Henri-Claude Bailly **HBC Reference:** 152

DESCRIPTION

This activity consisted in the organization, preparation, and presentation of an intensive 2-week training course on energy demand management techniques and equipment for industrial and commercial establishments. This course will be followed by another 2-week intensive training course in energy auditing scheduled for March 1984 (see report on Activity 155). The course was sponsored by the Ministry of Power and Energy and U.S. AID.

The course was held from December 7 - 17, 1983 and attended by some 45 Sri Lankan engineers. The companies represented at the course accounted for some 60 percent of the total energy consumed by industry in Sri Lanka. Each day of the 9-day course was organized around a major topic as follows:

- Day 1: Basic Concepts
- Day 2: Equipment/Industry Overview
- Day 3: Introduction to Plant Auditing
- Day 4: Thermal Energy Management
- Day 5: Fuel Substitution
- Day 6: Electricity Management
- Day 7: Visit/Audit of Tire Factory
- Day 8: Analysis of Tire Factory Audit
- Day 9: Panel Discussion/Course Review

With the exception of a one-day visit to the Sri Lanka Tyre Corporation to give the participants practical onsite training in the use of portable instrumentation, the program was conducted at the Sri Lanka Institute of Development Administration in Colombo.

An 800 page workbook on energy management techniques and equipment was prepared specifically for the course and distributed to all of the participants. In addition, two sets of portable diagnostic instruments for energy audits was also provided to the Ministry of Power and Energy. These instruments were used during the course's field work and will also be used during the energy auditing training course.

Each participant was asked to fill out an evaluation questionnaire to measure the success and effectiveness of the course. Based on 44 evaluations, the course was rated as follows:

- How would you evaluate the overall course?

Excellent:	13%
Good:	87%
Fair:	9%
Poor:	0%

- How useful overall do you think this course will be to you?

Extremely Useful:	53%
Useful:	47%
Not Useful:	0%

The technical content of the sessions was rated as good or excellent in 83 percent of the cases and the usefulness was rated as high or very high in 70 percent of the cases. The workbook is considered by all participants as particularly useful for their day-to-day work.

ACTIVITY REPORTS

1. Report on mission of Henri-Claude Bailly to Sri Lanka from 10/10/83 to 10/14/83. Memorandum from Henri-Claude Bailly to Pamela Baldwin dated October 31, 1983 (25 pages).
2. Energy Demand Management and Conservation Training Course -- Workbook (800 pages).

3. Report on In-Country Activities from 12/5/83 to 12/21/83. Memorandum from Henri-Claude Bailly to Pamela Baldwin dated December 31, 1983 (50 pages).
4. Course evaluation questionnaires completed by the participants (44 questionnaires, 264 pages).

KEY PERSONNEL

- Hagler, Bailly & Company: Henri-Claude Bailly, President; Alain Streicher, Vice President (course lecturer).
- Reliance Energy Services: Richard Smith, Senior Consultant (course lecturer).
- U.S. AID/Colombo: Eric Loken
- Ministry of Power and Energy: Dr. Mohan Munasinghe, Senior Energy Advisor.

EXPENDITURES

(As of 12/16/83 based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This Quarter</u>	<u>Cumulative</u>
Salaries	\$ 22,259	\$ 19,520	\$ 19,520
Fringe Benefits	5,788	5,075	5,075
Overhead	25,242	22,136	22,136
Travel/Trans./Per Diem	9,195	5,548	5,548
Other Direct Costs	6,000	6,874	6,874
Equipment	0	0	0
Subcontractor	<u>47,895</u>	<u>13,692</u>	<u>13,692</u>
Total	\$116,379	\$ 72,844	\$ 72,844
Fee	<u>7,752</u>	<u>4,852</u>	<u>4,852</u>
GRAND TOTAL	\$124,131	\$ 77,696	\$ 77,696

U.S. AID ENERGY CONSERVATION SERVICES PROGRAM
(Contract Number: DAN-5728-C-00-3073-00)

QUARTERLY ACTIVITY REPORT
(for period: 9/15/83-12/15/83)

ACTIVITY: Technology Transfer for Energy Management
Project Paper (Contract Task Area 6)

COUNTRY: Philippines

START DATE: 9/15/83 **COMPLETION DATE:** 4/15/84

BUDGET: \$133,099 **Quarterly Expenditures:** \$39,375
Cumulative Expenditures: \$39,375

ST/EY Manager: Pamela Baldwin

HBC Manager: Henri-Claude Bailly **HBC Reference:** 153

DESCRIPTION

This activity consists in providing analytical and technical support for the preparation of the project paper (PP) for the Technology Transfer for Energy Management (TTEM) project.

The TTEM project is a proposed joint effort of the U.S. AID mission in the Philippines and the Philippine Bureau of Energy Utilization (BEU) of the Ministry of Energy. The purpose of this project is to reduce oil imports by improving the energy efficiency of the industrial, commercial, and transportation sectors through the increased use of cost-effective energy conservation measures. These measures include both low cost "housekeeping" improvements such as plugging leaks and modifying temperature settings, and more expensive modifications or retrofits such as waste heat recovery, energy management systems, and fuel substitution.

At present, many potentially effective energy conservation measures are not undertaken for complex sets of reasons. Energy users may not have the knowledge of the existence of the energy conservation measures, may not have the technical expertise to properly evaluate the measures, may not

have the data to evaluate the economic performance of the measures, and may not have the funds to invest in the measures. Financial institutions may be unwilling to finance large energy conservation efforts because of uncertainty about the cash flow and product cost impacts of the investment. Government organizations may not be able to properly evaluate the impacts of such investment on industry productivity, international competitiveness, or balance of payments, or the impacts of their regulatory and incentive measures on such investment. And equipment suppliers may not have the ability to credibly demonstrate and publicize the effectiveness and cost/benefits of their equipment when it is applied in the Philippines.

To change this situation, and promote the adoption of energy efficient equipment, processes, and practices, the TTEM project focuses on encouraging the Philippine private sector to develop the energy conservation services needed by supporting:

1. Studies, seminars, and workshops to provide data on approaches to energy conservation and information on the costs and benefits of energy conservation technologies, and to upgrade the sectors analysis and implementation capabilities.
2. Technical assistance through both long-term and short-term consultant services to provide training, analytic, and management services.
3. Technology demonstrations to demonstrate the technical, economic, and institutional viability of energy conservation technologies, focusing on low-risk technologies already used in other countries which can be adapted quickly and inexpensively for use in the Philippines.

The total funding for this program is \$10.2 million, of which the U.S. AID will provide \$7.5 million and the GOP will provide \$2.7 million.

The analytic support provided to the PP preparation fall into three major areas: (a) the assessment of the institutional capabilities of the technology users, financing institutions, government institutions, intermediaries and technology suppliers; (b) the identification of the target sectors/technology responses which should be the focus of the project; and (c) the definition of technology transfer guidelines based on the lessons of other countries' programs. The final PP is to be submitted on April 15, 1984.

ACTIVITY REPORTS

1. Report on mission of Henri-Claude Bailly to the Philippines from 10/17/83 to 10/21/83. Memorandum to Pamela Baldwin dated October 28, 1983 (18 pages).
2. Thoughts on project implementation and management. Memorandum to Lawrence Ervin, U.S. AID/Philippines and Pamela Baldwin dated October 31, 1983 (9 pages).
3. Report on In-Country Activities from 11/28/83 to 12/16/83. Memorandum from Henri-Claude Bailly to Pamela Baldwin dated December 28, 1983 (77 pages).
4. The Philippine Energy Situation and Outlook and the U.S. AID Assistance Strategy -- Final Draft Paper dated 12/14/83 (31 pages).
5. Guidelines for technology transfer and demonstrations -- case studies. Draft working paper (19 pages).
6. TTEM Project Review Meeting (12/14/83) with U.S. AID/Philippines and Ministry of Energy, Bureau of Energy Utilization, presentation (18 pages).
7. TTEM Project Review Meeting (12/15/83) with U.S. AID/Philippines TTEM Project Review Committee, presentation (18 pages).

KEY PERSONNEL

- Hagler, Bailly & Company: Henri-Claude Bailly, President; Jack Stafurik, Manager.
- Reliance Energy Services: Bruce Appelbaum, Senior Consultant.
- U.S. AID/Manila: Lawrence Ervin.
- MOE/BEU: Orlando Galang, Director; Benjamin Lim, Chief, Energy Conservation Unit.

EXPENDITURES

(As of 12/16/83 based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This Quarter</u>	<u>Cumulative</u>
Salaries	\$ 33,850	\$13,903	\$13,903
Fringe Benefits	8,801	3,615	3,615
Overhead	38,386	15,766	15,766
Travel/Trans/Per Diem	22,500	3,172	3,172
Other Direct Costs	2,500	460	460
Equipment	0	0	0
Subcontractor	<u>18,750</u>	<u>0</u>	<u>0</u>
Total	\$124,787	\$36,916	\$36,916
Fee	<u>8,312</u>	<u>2,459</u>	<u>2,459</u>
GRAND TOTAL	\$133,099	\$39,375	\$39,375

U.S. AID ENERGY CONSERVATION SERVICES PROGRAM
(Contract Number: DAN-5728-C-00-3073-00)

QUARTERLY ACTIVITY REPORT
(for period: 9/15/83 - 12/15/83)

ACTIVITY: Data Base Development for AID Energy
Efficiency Projects and Energy Management
Information System (Contract Task Area 5)

COUNTRY: Not country specific

START DATE: 10/8/83 **COMPLETION DATE:** 2/6/84

BUDGET: \$15,451 **Quarterly Expenditures:** \$5,688
Cumulative Expenditures: \$5,688

ST/EY MANAGER: Pamela Baldwin

HBC Manager: Henri-Claude Bailly **HBC Reference:** 154

DESCRIPTION

This activity consists of (a) the development of a data base on AID-funded energy conservation projects and (b) the preparation of a concept paper on the feasibility of a computer-based energy information system to support the ECSP. The AID-funded projects data base will be updated quarterly or twice-yearly to record progress and to incorporate new projects. As part of this activity, all relevant project documents have been reviewed and AID energy offices have been interviewed. The product will be a written document, summarizing each project, to be submitted by January 30, 1984.

The concept paper will consider the technical and economic feasibility of initiating an energy management information system to support AID projects. It is anticipated that this energy management information system will grow from the specific information needed by the actual projects initiated under the ECSP. The concept paper will address how this project-specific activity can be coordinated and developed into a comprehensive, computer-based system of its own. The concept paper will be submitted on February 6, 1984.

ACTIVITY REPORT

None.

A

KEY PERSONNEL

- Hagler, Bailly & Company: Gerald Schwinn, Associate,
Timothy Bleakley, Associate.

EXPENDITURES

(As of 12/16/83 based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This Quarter</u>	<u>Cumulative</u>
Salaries	\$ 5,653	\$ 2,223	\$ 2,223
Fringe Benefits	1,470	578	578
Overhead	6,410	2,521	2,521
Travel/Trans/Per Diem	50	0	0
Other Direct Costs	50	11	11
Equipment	0	0	0
Subcontractor	<u>0</u>	<u>0</u>	<u>0</u>
Total	\$13,633	\$ 5,333	\$ 5,333
Fee	908	355	355
GRAND TOTAL	\$14,451	\$ 5,688	\$ 5,688

18

5: Energy Audit

- Examples of Evaluation of Individual Process or Equipment
- Examples of Comprehensive Plant Studies

6: Additional Information

The draft manual will be prepared by January 28, 1984. Fifty manuals will be shipped to Sri Lanka mid-February for distribution to the participants to the energy audit training course.

ACTIVITY REPORT

1. Detailed Audit Manual Outline (4 pages)

KEY PERSONNEL

- Hagler, Bailly & Company: Alain Streicher, Vice President.
- Reliance Energy Services: Max Lopp (Senior Consultant), Richard Smith (Senior Consultant).

EXPENDITURES

(As of 12/16/83 based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This Quarter</u>	<u>Cumulative</u>
Salaries	\$ 5,039	\$ 370	\$ 370
Fringe Benefits	1,310	96	96
Overhead	5,710	420	420
Travel/Trans/Per Diem	450	0	0
Other Direct Costs	3,000	0	0
Equipment	0	0	0
Subcontractor	<u>20,558</u>	<u>0</u>	<u>0</u>
Total	\$36,063	\$ 886	\$ 886
Fee	<u>2,402</u>	<u>59</u>	<u>59</u>
GRAND TOTAL	\$38,465	\$ 945	\$ 945

20