

PDAAQ 712

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**ENERGY CONSERVATION SERVICES PROGRAM:  
First Quarterly Report, FY 1985  
(10/1/84-12/31/84)**

Contract No. DAN-5728-C-00-3073-00

HBC Reference No. 84-150(5)

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

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## SUMMARY

The Energy Conservation Services Program (ECSP) provides a broad range of technical advisory services, training, and information dissemination activities to AID-assisted countries.\* The objective of this 4-year program is to promote energy conservation in industry, transportation, electric power generation and transmission, and commercial and institutional building design and operation. On September 15, 1983, the U.S. Agency for International Development (AID) contracted with Hagler, Bailly & Company (prime contractor) and Reliance Energy Services (subcontractor) to provide technical and management assistance to the program. In the first year of the contract, 18 separate activities were initiated and carried out from September 15, 1983 to September 28, 1984.

The first Quarterly Activity Report of the second year of ECSP covers the period October 1 through December 31, 1984. During this quarter, ten separate activities were carried out; seven of these activities were initiated in one of the previous quarters (see Exhibit 1). The emphasis during the quarter was placed on (1) sending missions to Djibouti, the Dominican Republic, and Central America to assess AID-assisted energy conservation projects already in progress in those countries, (2) continuing preparations for the Latin American and Caribbean regional energy conservation workshop (Seminario sobre la Conservacion de Energia), and (3) working with AID/Islamabad to initiate an energy conservation program in Pakistan. A total of 20 professional person-weeks were spent in Costa Rica, the Dominican Republic, Djibouti, Guatemala, Honduras, Indonesia, Pakistan, the Philippines, and Sri Lanka (see individual reports for country-by-country length of visit).

Quarterly expenditures, as shown in Exhibit 2, were \$294,874 (as compared with \$134,535 in the fourth quarter (see Exhibit 3 for previous quarterly expenditures)).

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

hibit 1

Summary of ECSP Activities  
(inception to date)

Activity	Period of performance	Budget	Cumulative expenditures (12/31/84) <sup>1</sup>
1. Program management and development, including preparation of in-country missions and program planning activities; preparation of Update progress report on ECSP activities; publication of descriptive brochure on ECSP; providing technical assistance to AID-, ESCAP-, and National Research Council-sponsored meetings; preparation of an international mailing list of individuals working on energy conservation in developing countries; planning for evaluations of AID projects in the Dominican Republic, Central America, and Djibouti (HBC reference 150/151)	9/15/83-ongoing	None	\$119,077
2. Organization, preparation, and presentation of 2-week energy demand management and conservation training course in Sri Lanka for Ministry of Power and Technology -- December 7-17, 1983 (HBC reference 152)	10/10/83-12/30/83	\$124,131	\$126,259
3. Support in preparation of Technology Transfer for Energy Management Project Paper with U.S. AID/Philippines and Ministry of Energy/Bureau of Energy Utilization (HBC reference 153)	9/15/83-4/30/84	\$133,000	\$ 86,778
4. Development of data base on AID-funding energy conservation initiatives (HBC reference 154)	10/8/83-5/11/84	\$ 14,451	\$ 13,407
5. Preparation of energy auditing manual for use in Sri Lanka (HBC reference 155)	10/21/83-2/27/84	\$ 38,465	\$ 43,755
6. Organization, preparation, and presentation of 4-week energy auditing course in Sri Lanka for Ministry of Power and Energy -- February 27-April 10, 1984 (HBC reference 156(a))	1/3/84-4/10/84	\$ 80,220	\$ 77,788
7. Completion of full audit reports and feasibility study of energy conservation projects for Sri Lanka Tyre Corporation and Thuhiriva Textile Mills (HBC reference 156(b))	3/15/84-8/15/84	\$ 69,061	\$ 68,257
8. Development of ECPIS: Energy Conservation Project Investment Evaluation Model and user manual (HBC reference 157)	1/3/84-8/30/84	\$ 23,805	\$ 34,645
9. Preparation of monograph on innovative approaches to financing energy conservation investments in less developed countries (HBC reference 158)	1/3/84-9/10/84	\$ 7,500	\$ 10,257
10. Completion of feasibility study of guide and directory of U.S. energy-efficient equipment for distribution to developing countries -- activity jointly sponsored with Office of Industrial Programs, U.S. Department of Energy (HBC reference 159)	1/3/84-7/12/84	\$ 25,000	\$ 25,941

Based on labor costs incurred and invoices received only.

hibit 1 (continued)

Summary of ECSP Activities  
(inception to date)

Activity	Period of performance	Budget	Cumulative expenditures (12/31/84) <sup>1</sup>
1. Missions to ASEAN countries to assist in the project planning for regional building energy conservation activities (HBC reference 160)	5/5/84-6/4/84	None	\$ 31,343
2. Mission to assess current energy situation in the transportation sector of Costa Rica and identify possible AID-funded activities to improve energy use efficiency; conducted in cooperation with Oak Ridge National Laboratory (HBC reference 161)	5/14/84-ongoing	None	\$ 20,093
3. Planning and preparation for the Latin America/Caribbean Regional Energy Conservation Seminar (HBC reference 162)	5/14/84-ongoing	\$102,000	\$ 35,732
4. Missions to Ecuador and Peru to assist in developing industrial energy conservation outreach services and programs (HBC reference 163)	5/14/84-ongoing	None	\$ 19,625
5. Ecuador industrial energy conservation training, curriculum development, and audits (HBC reference 164)	7/14/84-ongoing	\$104,157	\$ 94,368
6. Revision of training manual for energy demand management and conservation training course for industry and buildings (HBC reference 165)	7/14/84-ongoing	\$ 10,675	\$ 10,492
7. Revision of industrial energy audit manual (HBC reference 166)	7/14/84-9/1/84	\$ 14,458	\$ 15,007
8. Evaluation of the IIE/TVA Conventional Energy Training Project (CETP) Course (HBC reference 167)	6/30/84-8/30/84	\$ 19,096	\$ 21,704
9. Organization and planning of the Pakistan National Energy Conservation Center (HBC reference 168)	9/8/84-ongoing	None	\$ 68,342
10. Industrial Energy Conservation Program (Dominican Republic) Evaluation (HBC reference 169)	10/1/84-2/28/85	\$ 20,000	\$ 20,036
11. Regional Industrial Energy Efficiency Project (Central America and Panama) Evaluation (HBC reference 170)	10/1/84-3/15/85	\$ 36,000	\$ 34,423
12. Energy Initiatives Project (Djibouti) Evaluation (HBC reference 171)	11/30/84-2/15/85	\$ 16,286	\$ 9,860

<sup>1</sup>Based on labor costs incurred and invoices received only.

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Exhibit 2

First-Quarter Expenditures, FY 1985  
 (Fifth Quarter of the Contract) -- Summary

	<u>Contract budget<sup>1</sup></u>	<u>Quarterly expenditures<sup>2</sup></u>	<u>Cumulative expenditures through 12/31/85<sup>2</sup></u>	
			<u>\$</u>	<u>%</u>
Salaries	\$ 344,063	\$ 76,623	\$233,306	67.8
Fringe benefits	89,456	19,214	58,817	65.7
Overhead	390,168	90,909	274,659	70.4
Travel/trans./per diem	274,722	26,151	80,443	29.3
Other direct costs	41,200	21,403	62,637	152.0
Equipment	50,000	0	0	0.0
Subcontractor	<u>667,348</u>	<u>42,106</u>	<u>215,752</u>	<u>32.3</u>
<b>Total estimated costs</b>	<b>\$1,856,957</b>	<b>\$276,406</b>	<b>\$925,614</b>	<b>49.8</b>
Fixed fee	<u>123,698</u>	<u>18,468</u>	<u>61,763</u>	<u>49.9</u>
<b>Total estimated costs and fixed fee</b>	<b>\$1,980,655</b>	<b>\$294,874</b>	<b>\$987,377</b>	<b>49.9</b>

<sup>1</sup>Only \$1,040,409 has been obligated so far.

<sup>2</sup>Based on labor costs incurred and invoices received as of 12/31/84.

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Exhibit 3

ECSP Expenditures by Quarter

<u>First year</u>		<u>Second year</u>	
First quarter (9/15/83-12/15/83)	\$132,613	First quarter (10/1/84-12/31/84)	\$294,874
Second quarter (12/15/83-4/1/84)	195,109		
Third quarter (4/2/84-6/30/84)	230,243		
Fourth quarter (7/2/84-9/28/84)	<u>134,535</u>		
<b>Yearly total</b>	<b>692,500</b>		

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Program Management and Development

**COUNTRY:** Not country-specific

**START DATE:** 9/15/83

**COMPLETION DATE:** Ongoing

**BUDGET:** None

**QUARTERLY EXPENDITURES:** \$ 43,608

**CUMULATIVE EXPENDITURES:** \$119,077

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Henri-Claude Bailly

**HBC REFERENCE:** 150/151

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**DESCRIPTION**

This activity consists of the various management tasks associated with the execution of the contract -- e.g., progress review meetings, preparation of quarterly reports. It also includes 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 eventually become separate activities for program management purposes.) The first-quarter initiatives for the second year of ECSP (in addition to those that are already treated as separate program activities) included:

- Publication of the French-language brochure on the Energy Conservation Services Program (see QAR, 7/2/84-9/28/84). Both the French- and Spanish-language brochures were distributed with the second issue of the Update to French- and Spanish-speaking AID recipient countries.
- Distribution of the second issue of the Update to all AID field missions as well as relevant counterpart agencies in developing countries and international organizations. Approximately 350 copies were distributed.
- An ECSP staff member attended and presented a paper on the ECSP-funded Energy Conservation Project Investment

Evaluation Model (ECPIE) at the Symposium on "Microcomputers for Developing Countries" held in Colombo, Sri Lanka on November 4-9, 1984. The symposium was sponsored by the Board of Science & Technology for International Development, a section of the U.S. National Research Council. Attending the symposium were officials from developing countries in the region and representatives from various universities and international organizations. Approximately 40 people attended the symposium. Topics presented at the symposium covered the use of microcomputers in managing sectors of a national economy, including agriculture, energy, and health.

#### ACTIVITY REPORTS

1. ECPIE: An Energy Conservation Project Investment Evaluation Model (paper presentation on the model for the Sri Lanka symposium), October 31, 1984.
2. Programme de Cooperation Pour les Economies d'Energie (French version of the ECSP brochure).

#### KEY PERSONNEL

- Hagler, Bailly & Company: Henri-Claude Bailly, President; Alain Streicher, Vice President; Michael Fisher, Manager (14 days in Sri Lanka); Gerald Schwinn, Associate; Faith Klareich, Research Associate.

#### EXPENDITURES

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$10,816	\$ 33,369
Fringe benefits	2,764	8,427
Overhead	12,761	39,411
Travel/trans./per diem	323	2,315
Other direct costs	14,283	23,373
Equipment	0	0
Subcontractor	<u>0</u>	<u>4,745</u>
<b>Total</b>	<b>\$40,947</b>	<b>\$111,640</b>
<b>Fee</b>	<u><b>2,661</b></u>	<u><b>7,437</b></u>
<b>GRAND TOTAL</b>	<b>\$43,608</b>	<b>\$119,077</b>

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** ASEAN Buildings Energy Conservation Activities (Contract Task Area 6)

**COUNTRY:** Indonesia, Malaysia, Philippines, Singapore, Thailand

**START DATE:** 5/19/84

**COMPLETION DATE:** Ongoing

**BUDGET:** None

**QUARTERLY EXPENDITURES:** \$12,757

**CUMULATIVE EXPENDITURES:** \$31,343

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** John Cable

**HBC REFERENCE:** 160

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**DESCRIPTION**

During this quarter, we continued our assistance to the AID Bureau for Asia by sending a mission to the ASEAN-U.S. Energy Experts Meeting held in Manila from October 12-13. The meeting was organized to develop a plan for and schedule of projects to be implemented under Phase III of the ASEAN-U.S. Energy Cooperation Program. Participants included energy experts from the ASEAN member countries and the United States. The meeting agenda included project proposals being considered in the following areas: (1) building energy assessment and standards policy analysis, (2) daylight/systems maintenance research, (3) energy management training, and (4) private-sector information dissemination. In this activity, Hagler, Bailly & Company provided technical support in the formulation of a project plan for the buildings component of the Phase III program.

The mission also included visits with energy officials in the Philippines and a trip to Indonesia where discussions were held to explore the status of energy conservation activities in those countries. In the Philippines, meetings were held with the officers and faculty from the Institute of Philippine Architects. Interest was expressed in working jointly with AID to establish a professional development program in energy management.

**ACTIVITY REPORT**

1. ASEAN-U.S. Energy Experts meeting, memorandum to Pamela Baldwin from John Cable dated October 24, 1984.

**KEY PERSONNEL**

- Hagler, Bailly & Company: John Cable, Vice President (6 days in the Philippines, 3 days in Indonesia)
- U.S. AID/Washington: Robert Ichord, ASIA/TR/EFE.

**EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 3,092	\$ 8,381
Fringe benefits	772	2,095
Overhead	3,672	9,953
Travel/trans./per diem	4,387	8,685
Other direct costs	65	272
Equipment	0	0
Subcontractor	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$11,988</b>	<b>\$29,386</b>
Fee	<u>769</u>	<u>1,957</u>
<b>GRAND TOTAL</b>	<b>\$12,757</b>	<b>\$31,343</b>

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Transportation Energy Conservation (Contract Area 2)

**COUNTRY:** Costa Rica

**START DATE:** 5/14/84

**COMPLETION DATE:** Ongoing

**BUDGET:** None

**QUARTERLY EXPENDITURES:** \$ 1,860

**CUMULATIVE EXPENDITURES:** \$20,093

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Alain Streicher      **HBC REFERENCE:** 161

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**DESCRIPTION**

The purpose of this activity is to assess the current energy situation in the transportation sector of Costa Rica and to identify opportunities for AID-funded and other activities to improve the efficiency of energy use in this sector. During this quarter, a revision to the draft report on the ECSP reconnaissance mission to Costa Rica was completed.

**ACTIVITY REPORT**

1. Revised Draft Report of the Transportation Energy Conservation Reconnaissance Mission to Costa Rica June 3-16, 1984, prepared by David Greene and Frank Southworth, Oak Ridge National Laboratory, and Robert Kowalski, December 31, 1984.

**KEY PERSONNEL**

- Hagler, Bailly & Company: Robert Kowalski, Senior Consultant; Gerald Schwinn, Associate; Ana-Mari Carasso, Research Associate.
- Oak Ridge National Laboratory: David Greene, Frank Southworth

- U.S. AID/Washington: Robert Archer, LAC/DR
- U.S. AID/San Jose: Heriberto Rodriguez, Energy Officer;  
Alvaro Umana, Representative to MIEM/DSE
- Costa Rica: Alexandra Hernandez, Ministerio de Industria,  
Energia y Minas, Directorate Sectorial Energia.

**EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 489	\$ 6,547
Fringe benefits	122	1,637
Overhead	581	7,775
Travel/trans./per diem	0	2,165
Other direct costs	552	713
Equipment	0	0
Subcontractor	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$1,743</b>	<b>\$18,837</b>
Fee	<u>117</u>	<u>1,256</u>
<b>GRAND TOTAL</b>	<b>\$1,860</b>	<b>\$20,093</b>

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Seminario sobre la Conservacion de Energia (Contract Task Area 4)

**COUNTRY:** Latin America/Caribbean region

**START DATE:** 6/2/84

**COMPLETION DATE:** Ongoing

**BUDGET:** \$102,000

**QUARTERLY EXPENDITURES:** \$30,188

**CUMULATIVE EXPENDITURES:** \$35,732

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Henri-Claude Bailly

**HBC REFERENCE:** 162

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**DESCRIPTION**

Planning and preparations continued during this quarter for the energy conservation seminar to be held in Costa Rica from January 14-17, 1985. The seminar is being jointly sponsored by the Office of Energy and the Bureau for Latin America and the Caribbean. Also agreeing to joint sponsorship were the Costa Rican Ministry of Industry, Energy, and Mines (MIEM -- Ministerio de Industria Energia y Minas) and the Central American Institute of Business Administration (INCAE -- Instituto Centroamericano de Administracion de Empresas), also the host for the actual meeting site.

During the quarter, a final agenda was prepared and a list of attendees was determined. Attendance includes the following numbers from the countries of the region and the organizations and projects concerned with energy conservation in the area:

USAID/Washington		3
ECSP contractor (Hagler, Bailly & Company)		5
World Bank		1
InterAmerican Development Bank		1
Organization of American States		1
Latin American Energy Organization		1
Caribbean Community Secretariat		1-2
French Agency for Energy Management (AFME)		2
Regional Industrial Energy Efficiency Project		17
USAID/ROCAP	3	
Georgia Tech	1	
ICAITI	3	
SIECA	2	
Guatemala, El Salvador, Honduras, Costa Rica	2 each	
Dominican Republic		6
Jamaica		5
Ecuador		2-4
Peru		3
Haiti		3
Barbados		3
Costa Rica		13
		<u>66-69</u>

AID energy staff from missions in the following countries will be attending the seminar: Jamaica, Ecuador and Latin America Region, Peru, Haiti, Barbados and Caribbean Regional Development Office, Costa Rica, and the Regional Office for Central America and Panama (ROCAP), Guatemala City.

Papers were received during the quarter for presentation at the seminar on AID-assisted projects in Central America and Panama (ROCAP), Jamaica, Dominican Republic, Costa Rica, and Ecuador, as well as a World Bank-supported activity in Barbados. ECSP contractor staff also prepared papers on various aspects of project activities to share ECSP experience worldwide with those in the Latin American and Caribbean region working on energy conservation. Topics of ECSP-prepared papers include:

- Implementing an energy auditing program
- Fuel conversion
- Economics of energy conservation at the enterprise level
- Financing energy conservation investments: issues and traditional approaches
- Innovative financing of energy conservation investments

- ECPIE (Energy Conservation Project Investment Evaluation Model)
- Building energy conservation.

All papers received for the seminar will be available in English and Spanish, and a complete set of papers will be provided to each attendee. Plans have been made to transcribe the full proceedings of the seminar and to make available a detailed summary report following the seminar.

ECSP contractor staff worked closely throughout the quarter with AID staff from the Office of Energy and the Bureau for Latin America and the Caribbean in making all plans and arrangements for the seminar.

#### **ACTIVITY REPORT**

None.

#### **KEY PERSONNEL**

- Hagler, Bailly & Company: Henri-Claude Bailly, President; Alain Streicher, Vice President; John Cable, Vice President; Michael Fisher, Manager; Gerald Schwinn, Associate; Ana-Mari Carasso, Research Associate
- U.S. AID/Washington: Robert Archer, LAC/DR.

#### **EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 27,413	\$10,669	\$12,468
Fringe benefits	6,852	2,667	3,117
Overhead	32,553	12,670	14,806
Travel/trans./per diem	19,050	724	1,537
Other direct costs	11,950	1,547	1,572
Equipment	0	0	0
Subcontractor	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$ 98,818</b>	<b>\$28,277</b>	<b>\$33,500</b>
Fee	<u>4,122</u>	<u>1,911</u>	<u>2,232</u>
<b>GRAND TOTAL</b>	<b>\$102,000</b>	<b>\$30,188</b>	<b>\$35,732</b>

The Bureau for Latin America and the Caribbean has contributed \$50,000 to this project.

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Ecuador Industrial Energy Conservation Training, Curriculum Development, and Audits (Contract Task Areas 3 and 4)

**COUNTRY:** Ecuador

**START DATE:** 7/14/84

**COMPLETION DATE:** Ongoing

**BUDGET:** \$104,157

**QUARTERLY EXPENDITURES:** \$67,800

**CUMULATIVE EXPENDITURES:** \$94,368

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Alain Streicher

**HBC REFERENCE:** 164

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**DESCRIPTION**

During this quarter, final reports of the energy audits conducted at a textile factory (Textiles Continental S.A.), a brewery (Las Penas Brewery, Compania de Cervezas Nacionales C.A.), and a cement factory (La Cemento Nacional) were completed with information that was obtained during on-site work and training sessions held in September 1984.

As planned, a mission was sent to Ecuador to visit the Escuela Superior Politecnica del Litoral (ESPOL) and the National Energy Institute (INE -- Instituto Nacional de Energia) after the completion of the audit reports. At ESPOL, further discussions were held with the staff concerning additional ECSP assistance in the preparation of a series of training seminars on energy conservation to be conducted in 1985 and 1986. A budget was also developed and accepted by AID for the translation of the energy auditing manual to Spanish.

In Quito, Hagler, Bailly staff met with the executive director of INE to discuss the revision of two proposals for continued assistance. The first proposal entails performance of a training program in Quito similar to that conducted in Guayaquil. The second proposal would provide INE with a 1-year resident consultant to

conduct the Guayaquil training program, energy audits, and feasibility studies on a regular basis.

#### ACTIVITY REPORTS

1. Energy Audit Report for Compania Cervezas Nacionales C.A., Guayaquil, Ecuador, October 1984.
2. Preliminary Energy Audit Report for La Cemento Nacional, C.A., Guayaquil, Ecuador, November 26, 1984.
3. Energy Audit Report for Textiles Continental S.A., Guayaquil, Ecuador, November 1984.
4. Mission Trip Report, memorandum to Pamela Baldwin from Alain Streicher dated December 3, 1984.

#### KEY PERSONNEL

- Hagler, Bailly & Company: Alain Streicher, Vice President (3 days in Ecuador)
- Reliance Energy Services: Richard Smith, Senior Consultant; Bruce Appelbaum, Senior Consultant
- U.S. AID/Ecuador: Carl Duisberg, Regional Energy Officer
- U.S. AID/Washington: Robert Archer, LAC/DR
- Ecuador: Rodolfo Paz (ESPOL), Juan Zak and Dr. Quevedo (INE).

#### EXPENDITURES

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 15,145	\$ 8,476	\$17,692
Fringe benefits	3,785	2,119	4,423
Overhead	17,985	10,066	21,010
Travel/trans./per diem	5,518	4,708	6,453
Other direct costs	2,888	1,228	1,991
Equipment	0	0	0
Subcontractor	<u>52,802</u>	<u>36,905</u>	<u>36,905</u>
<b>Total</b>	<b>\$98,123</b>	<b>\$63,502</b>	<b>\$88,474</b>
Fee	<u>6,034</u>	<u>4,298</u>	<u>5,894</u>
<b>GRAND TOTAL</b>	<b>\$104,157</b>	<b>\$67,800</b>	<b>\$94,368</b>

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Revision of Training Manual (Contract Task Area 5)  
**COUNTRY:** Not country-specific  
**START DATE:** 7/14/84                      **COMPLETION DATE:** Ongoing  
**BUDGET:** \$10,675                              **QUARTERLY EXPENDITURES:** \$ 7,770  
**CUMULATIVE EXPENDITURES:** \$10,492  
**ST/EY MANAGER:** Pamela Baldwin  
**HBC MANAGER:** Alain Streicher      **HBC REFERENCE:** 165

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**DESCRIPTION**

The purpose of this activity is to revise and to generalize for any or all developing countries the workbook on energy management techniques and equipment that was prepared for the Sri Lanka Energy Demand Management and Conservation Training Course (see QAR, 9/15/83-12/15/83). Work on revising the training manual began last quarter and will be continued into the next quarter. The revised manual will be titled Energy Demand Management and Conservation Training Course for Industry and Buildings.

**ACTIVITY REPORT**

None.

**KEY PERSONNEL**

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

**EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 1,531	\$1,216	\$ 2,063
Fringe benefits	383	304	516
Overhead	1,818	1,444	2,450
Travel/trans./per diem	0	20	20
Other direct costs	3,720	1,571	2,080
Equipment	0	0	0
Subcontractor	<u>2,597</u>	<u>2,708</u>	<u>2,708</u>
<b>Total</b>	<b>\$10,049</b>	<b>\$7,263</b>	<b>\$ 9,837</b>
Fee	<u>626</u>	<u>507</u>	<u>655</u>
<b>GRAND TOTAL</b>	<b>\$10,675</b>	<b>\$7,770</b>	<b>\$10,492</b>

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Organization and Planning of a Pakistan National  
Energy Conservation Center (Contract Task Area 6)

**COUNTRY:** Pakistan

**START DATE:** 9/8/84

**COMPLETION DATE:** Ongoing

**BUDGET:** None

**QUARTERLY EXPENDITURES:** \$63,556

**CUMULATIVE EXPENDITURES:** \$68,342

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Henri-Claude Bailly

**HBC REFERENCE:** 168

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**DESCRIPTION**

During this quarter, planning for a proposed national energy conservation center in Pakistan was expanded to consider all the ramifications of a national energy conservation program for Pakistan. Hagler, Bailly staff went to Islamabad initially in the beginning of the quarter to assist the AID mission with the planning and organization of a proposed national energy conservation center in Pakistan. During this first mission, a Hagler, Bailly staff member traveled throughout the country conducting interviews with Pakistani officials and gathering information for a draft discussion paper on the proposed national energy conservation center. The draft paper, written in Pakistan, outlined the organizational requirements for the center.

Based on the success of this initial activity, a second mission of Hagler, Bailly staff was sent to Pakistan to assist in the development of a more detailed and comprehensive proposal. This activity involved the preparation of a microcomputer-based policy presentation on energy conservation, together with a policy proposal for a national energy conservation program. Pakistan faces severe shortages of electricity and natural gas, and the country's trade balance is strained by the high cost of imported oil. While the need to increase energy efficiency is widely recognized in Pakistan, an energy conservation program has yet to be

implemented by the government of Pakistan. As part of its program in the country, AID is assisting the Pakistani government in the development of a national energy conservation program that would be coordinated by an energy conservation center.

In conjunction with the present efforts in Pakistan, the Hagler, Bailly staff has assisted USAID/Islamabad in setting up an energy conservation data base. The data base contains information and calculations of energy conservation potential for each sector of the economy. A final report on mission activities will be completed next quarter.

#### ACTIVITY REPORT

1. Organization and Implementation Plan for the Energy Conservation Center (Draft Discussion Paper, October 8, 1984.
2. Energy Conservation in Pakistan: First Draft and Supporting Analysis, November 16, 1984.
3. Presentation to the Energy Policy Board on Energy Conservation (Preliminary Draft), December 19, 1984.

#### KEY PERSONNEL

- Hagler, Bailly & Company: Henri-Claude Bailly, President (24 days in Pakistan); Charles Zimmermann, Associate (20 days in Pakistan); Bruce Exstrum, Associate
- Reliance Energy Services: Bruce Appelbaum, Managing Consultant
- U.S. AID/Islamabad: Dr. Donor Lion, Charles Moseley, James Bever.

#### EXPENDITURES

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$21,159	\$22,701
Fringe benefits	5,290	5,675
Overhead	25,126	26,957
Travel/trans./per diem	6,822	7,579
Other direct costs	1,138	1,162
Equipment	0	0
Subcontractor	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$59,535</b>	<b>\$64,074</b>
Fee	<u>4,021</u>	<u>4,268</u>
<b>GRAND TOTAL</b>	<b>\$63,556</b>	<b>\$68,342</b>

The AID mission in Islamabad will contribute \$150,000 to this project.

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Industrial Energy Conservation Program Evaluation  
(Contract Task Area 6)

**COUNTRY:** Dominican Republic

**START DATE:** 10/1/84

**COMPLETION DATE:** 2/28/85

**BUDGET:** \$20,000

**QUARTERLY EXPENDITURES:** \$20,036

**CUMULATIVE EXPENDITURES:** \$20,036

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Alain Streicher

**HBC REFERENCE:** 169

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**DESCRIPTION**

During this quarter, an ECSP mission went to the Dominican Republic to evaluate the Energy Conservation and Resource Development Project No. 517-0144 (see QAR 7/2/84-9/28/84). The objectives of the assessment were to determine the soundness of the project and, where necessary, to make recommendations for changes that would ensure the project's success. From October 15-26, 1984, in-country activities included interviews, on-site plant inspections, and a review of documents. Over 50 individuals were contacted during the course of this fact-finding mission.

The project, which was implemented in 1983, has been seriously hampered by management and resource problems. Its original objectives were (1) to establish an institutional capability in industrial energy conservation to carry out audits, (2) to implement five pilot projects in industrial conservation, and (3) to establish a credit mechanism for assisting industries. Constrained by Dominican government-mandated austerity measures, the governmental coordinating agency -- the National Energy Commission (COENER -- Comision Nacional de Energia) -- has been unable to meet its commitments to the project.

The mission found that COENER has been reasonably successful in raising awareness for energy conservation and attracting

qualified staff, but has failed in projecting an image of efficiency to its industrial audience. The recommendations contained in the evaluation report suggest immediate steps for AID to correct problems with the project's execution, which include:

- Providing technical assistance on a flexible basis, with an interim review to determine the need for continued services
- Pressing for restoration of the semi-autonomous status enjoyed by COENER until April 1984, supporting the effort by adequate documentation of the unfavorable impact on project results
- Providing intensive training of private consulting engineering firms and actively promoting their involvement in implementing the project
- Attracting and retaining qualified professionals through non-financial incentives, such as advanced training in the Dominican Republic and the United States; this training should be programmed in an integrated series of modules over a period of several years
- Improving the quality of the reports generated by the project (e.g., audit reports, progress reports) to increase their effectiveness as working documents that provide a basis for management actions.

#### ACTIVITY REPORT

1. Dominican Republic: Energy Conservation and Resource Development/Component 2: Industrial Energy Conservation Program, December 14, 1984.

#### KEY PERSONNEL

- Hagler, Bailly & Company: Alain Streicher, Vice President (8 days in Dominican Republic); Robert Kowalski, Senior Consultant (15 days in Dominican Republic)
- U.S. AID/Dominican Republic: Larry Armstrong, Energy Officer and Project Development Officer; William Smith, Chief of Engineering
- Dominican Republic: Ing. Jose Ramon Acosta, Head of COENER; Eduardo Maal, Resident Advisor (Fluor).

**EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 5,616	\$ 6,564	\$ 6,564
Fringe benefits	1,403	1,641	1,641
Overhead	6,669	7,795	7,795
Travel/trans./per diem	2,355	2,648	2,648
Other direct costs	1,250	137	137
Equipment	0	0	0
Subcontractor	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$17,293</b>	<b>\$18,785</b>	<b>\$18,785</b>
<b>Fee</b>	<u>1,513</u>	<u>1,251</u>	<u>1,251</u>
<b>GRAND TOTAL</b>	<b>\$20,000*</b>	<b>\$20,036</b>	<b>\$20,036</b>

The AID mission in Santo Domingo has contributed \$13,000 to this project.

\*Includes a 5-percent contingency.

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Regional Industrial Energy Efficiency Project Evaluation  
(Contract Task Area 6)

**COUNTRY:** Central America and Panama

**START DATE:** 10/1/84

**COMPLETION DATE:** 3/15/85

**BUDGET:** \$36,000

**QUARTERLY EXPENDITURES:** \$34,423

**CUMULATIVE EXPENDITURES:** \$34,423

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Alain Streicher

**HBC REFERENCE:** 170

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**DESCRIPTION**

During this quarter, a mission was sent to Central America to evaluate the Regional Industrial Energy Efficiency Project (Project No. 596-0095) of the Regional Office for Central America and Panama (ROCAP). Started under the leadership of ROCAP in 1982, the project has set out to improve the balance of payments burden of the Central American countries by reducing their dependence on oil imports. Countries covered under the program are Guatemala, Honduras, El Salvador, Costa Rica, and Panama, the signatories of the agreement between the Chamber of Industries-Central American Technical and Industrial Research Institute (ICAITI -- Instituto Centroamericano de Investigacion y Tecnologia Industrial). Implementing the program are two regional agencies -- ICAITI and the Secretariat for Central American Economic Integration (SIECA -- Secretaria de Integracion Economica Centroamericana). Their role is to coordinate activities and operations among the participating countries to increase the efficiency of energy use in industry by (1) conducting energy audits, (2) implementing conservation measures, and (3) integrating energy-efficient equipment.

In its evaluation, the mission found that the program is unique in being the only regional energy conservation effort in the world and receiving substantial revenues from the sale of its services to the private sector. The recommendations focused on

improving project management by increasing participation of field engineers and national delegates in the planning process and clarifying the responsibilities of the various participants to avoid overlaps and conflicts. Other recommendations called for more involvement of private consulting and engineering firms in energy audits, training, and project implementation; increasing the project's decentralization; and increasing the technical staff and providing them with additional training. The evaluation concluded that the project has the potential to be successful, although the project's original quantitative energy-saving goals are not likely to be achieved.

#### ACTIVITY REPORT

1. Regional Industrial Energy Efficiency Project (First Evaluation Draft Report), December 7, 1984.

#### KEY PERSONNEL

- Hagler, Bailly & Company: Alain Streicher, Vice President (21 days in Costa Rica, El Salvador, Guatemala, Panama); Robert Kowalski, Senior Consultant (21 days in Costa Rica, Guatemala, Honduras, Panama)
- U.S. AID: Robert Archer, LAC/DR
- USAID/ROCAP: Edward Nadeau, General Development Officer; David Chavez, General Development Officer; Gustavo Ruiz, Assistant Development Officer
- ROCAP:
  - Costa Rica -- Ing. Felix del Barco, Delegate
  - El Salvador -- Ing. Jaime Gonzalez, Delegate
  - Guatemala -- D. Ricardo Castillo, President of the Chamber of Industries
  - Honduras -- Ing. Angel Porfirio Sanchez, Delegate
  - Panama -- Ing. Celedonio Moncayo, Delegate.

**EXPENDITURES**

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$10,275	\$10,764	\$10,764
Fringe benefits	2,569	2,691	2,691
Overhead	12,201	12,783	12,783
Travel/trans./per diem	4,860	5,177	5,177
Other direct costs	1,650	858	858
Equipment	0	0	0
Subcontractor	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$31,555</b>	<b>\$32,273</b>	<b>\$32,273</b>
Fee	<u>2,765</u>	<u>2,150</u>	<u>2,150</u>
<b>GRAND TOTAL</b>	<b>\$36,000*</b>	<b>\$34,423</b>	<b>\$34,423</b>

The AID Regional Office for Central America and Panama has contributed \$20,000 to this project.

\*Includes 5-percent contingency.

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

**QUARTERLY ACTIVITY REPORT**  
**(For period 10/1/84-12/31/84)**

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**ACTIVITY:** Energy Initiatives Project Evaluation (Contract Task Area 6)

**COUNTRY:** Djibouti

**START DATE:** 11/30/84

**COMPLETION DATE:** 2/15/85

**BUDGET:** \$16,286

**QUARTERLY EXPENDITURES:** \$9,860

**CUMULATIVE EXPENDITURES:** \$9,860

**ST/EY MANAGER:** Pamela Baldwin

**HBC MANAGER:** Alain Streicher

**HBC REFERENCE:** 171

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**DESCRIPTION**

During this quarter, Hagler, Bailly participated in an evaluation of the Djibouti Energy Initiatives Project (AID Project No. 603-0013). Started in 1981, the project was designed to reduce Djibouti's balance of payments burden by substituting alternative energy resources for oil imports. Volunteers in Technical Assistance (VITA) is the primary U.S. contractor for the project and is responsible for achieving the overall objectives of the program. As originally conceived, the Energy Initiatives Project would strengthen the linkage between economic development planning and applied research by bolstering Djibouti's scientific and technical institute, the National Higher Institute of Scientific and Technological Research (ISERST). The project was aimed specifically at establishing the institutional capability within ISERST to plan, implement, and evaluate alternative energy development strategies and conservation programs.

ECSP program staff were asked to participate in the evaluation of the Djibouti project in order to redefine the scope of the project so that the management burden can be reduced. Currently, a detailed report on the mission is being prepared, and recommendations for restructuring the program will be contained in a final report. The major recommendation will be to reorient the project

toward conservation measures instead of the use of renewable energy resources.

### ACTIVITY REPORT

None.

### KEY PERSONNEL

- Hagler, Bailly & Company: Alain Streicher, Vice President (9 days in Djibouti)
- U.S. AID/Djibouti: John Lundgren, Energy Officer
- VITA/Djibouti: Stephen Hirsch
- Djibouti: Anis Abdallah, Oblik Carton.

### EXPENDITURES

(As of 12/31/84, based on labor costs incurred and invoices received):

	<u>Budget</u>	<u>This quarter</u>	<u>Cumulative</u>
Salaries	\$ 3,924	\$3,378	\$3,378
Fringe benefits	981	844	844
Overhead	4,659	4,011	4,011
Travel/trans./per diem	4,894	1,010	1,010
Other direct costs	650	1	1
Equipment	0	0	0
Subcontractor	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>\$15,108</b>	<b>\$9,244</b>	<b>\$9,244</b>
Fee	<u>1,178</u>	<u>616</u>	<u>616</u>
<b>GRAND TOTAL</b>	<b>\$16,286</b>	<b>\$9,860</b>	<b>\$9,860</b>