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FINAL REPORT

EVALUATION OF THE USAID ENERGY POLICY DEVELOPMENT AND CONSERVATION (EPDAC) PROJECT #936-5728

February 11, 1988

VOLUME I - EVALUATION REPORT

Prepared for:

The Office of Energy, Science and Technology Bureau
US Agency for International Development
Under Contract No. PDC-5730-I-00-6112-00
Delivery Order No. 09

Power

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I.T. Power Inc.
1015 Eighteenth Street, N.W.
Suite 801
Washington, D.C. 20036

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I. EXECUTIVE SUMMARY

The Energy Policy Development and Conservation (EPDAC) Project of AID's Office of Energy, Science and Technology Bureau (S&T/EY) completed its first 4 years in May 1987. Continuing demand for the services provided to Country Missions under the 2 EPDAC components, the Energy Planning and Policy Development Project (EPPD) and the Energy Conservation Services Program (ECSP), was sufficiently strong such that S&T/EY competitively bid for a new ECSP support contractor with Hagler, Bailly being selected in July 1987, and renewed the inter-agency agreement whereby Oak Ridge National Laboratory (ORNL) continued to support the EPPD under a PASA arrangement.

An evaluation of the EPDAC project has now been completed and this report documents the evaluation findings. The tone of the evaluation was set by the "goal" of the EPDAC project to promote the economic growth and increased productivity of developing countries by providing energy and power at the lowest possible economic, financial, and social cost through a series of specific support activities to the Regional Bureaus and Country Missions, plus the planned 5 additional years of EPDAC activity. The evaluation team, therefore, examined a large number of the EPDAC outputs, interviewed as many involved and interested parties as possible in Washington and in the field, and also focused on the overall EPDAC project management, as well as the support contractors. A basic integration of the findings and issues (detailed in Section IV) of the evaluation team suggests that:

A. The EPDAC components operated as separate and distinct projects, although there is some justification and need for closer cooperation in certain areas and an institutional structure compatible with such cooperation does exist.

B. Both the ECSP and EPPD can be classified as true successes based on a variety of criteria applied to define success, and the original EPDAC goals are being met, but the ECSP and Hagler, Bailly were clearly perceived in the field as the more responsive and desired contractor.

C. There were multiple management and implementation issues that arose regarding both ECSP and EPPD and their contractors during the evaluation that can provide a basis for redirection if the EPDAC activities are to reach their full impact potential.

D. The majority of the issues were related to or caused by project management (both S&T/EY and contractor) and/or communication difficulties.

E. The basic ECSP implementation strategy of quick response, short-term catalytic actions must be modified, especially for smaller countries with weak infrastructures to carry on either supportive or follow-on activities.

F. The EPPD and ORNL are underutilized for field support activities, and from the field perspective, there is too little knowledge of EPPD and the resources it has to offer.

G. LAC and AFR Regional Bureau attitudes toward energy issues do not coincide with the individual Country Mission and host government perspectives and demand for S&T/EY support is definitely present in many countries in these regions.

H. ANE will continue to be a major focal point for EPDAC activity.

I. EPDAC is not promoted actively enough anywhere as a flexible tool for addressing "economic" issues in multiple sectors. It must be perceived as more than just an energy project.

As a result of the evaluation findings, and development of specific issues, a series of recommendations is put forth by the evaluation team (detailed in Section V) for S&T/EY and its contractors to consider. The recommendations are all aimed at improving the efficiency and responsiveness of the EPDAC activities and for also communicating to a broader audience its successes and failures and, more importantly, the reasons for these happening. The recommendations are briefly summarized as follows:

A. ORNL's institutional characteristics should be promoted and exploited more actively for EPPD to reach a broader base of countries.

B. The ECSP project methodology should be refined to provide more comprehensive services to a probable smaller number of "small" countries.

C. Communication between S&T/EY, its contractors, and the Regional Bureaus should be improved.

D. The EPDAC project should be marketed to a broader audience because of its legitimate potential for economic impact in the power sector, agricultural productivity, industrial productivity, foreign exchange demand and availability, household sector, etc. It is more than just an energy project.

E. The ECSP scope of work should be revised to add both a management task and a field follow-up activity task.

F. The EPDAC activity managers should continue to develop, at an accelerated pace, collaborative activities with the World Bank and other multilateral development banks such as the "Multi-Institutional Group on Power Innovation" and the Diesel Utility Monitoring Project.

G. The orientation of the EPPD program toward S&T/EY program planning, while appropriate in 1984-86, should continue to be shifted toward field projects and related technical assistance.

H. S&T/EY needs to make more management tools available to the EPDAC activity managers such as increased travel budgets, and provide management tasks in the ECSP contract and the EPPD agreement.

I. ORNL should be developing an implementation structure to counter a current field image of too independent an entity.

The EPDAC project is without a doubt providing a valuable, relevant, and desired service within its defined scope of activities. Strong demand continues to exist for EPDAC or EPDAC-like services. Based on being responsive to the lessons learned in the first 4 years, the project can increase its value and effectiveness. By communicating better, it can also improve its image as a mature and proven performer.

II. INTRODUCTION

A. Purpose of the Evaluation

The Energy Policy Development and Conservation (EPDAC) Project is a major and highly visible initiative of the USAID Office of Energy with a 4-year history. As the project has been scheduled to continue for another 5 years (July 31, 1987 to July 31, 1992) with support contractors in place, it is essential that the project concept, management and implementation be evaluated and that recommendations be made to maximize the benefits derived from the EPDAC activities worldwide. In short, it is essential that lessons learned are acknowledged and applied.

As the EPDAC project consists of 2 distinct but related components, the Energy Conservation Services Program (ECSP) and the Energy Policy and Planning Development (EPPD) component, each with a different implementation contractor, this evaluation will treat each separately. The evaluation will, however, consider the necessary interrelationship between the 2 components as an evaluation issue.

B. History of the Project

Although conceptualized in FY 1982, the EPDAC project has been operating and been funded by the Office of Energy since 1983 with the ECSP start-up. There were important individual lead-in activities prior to the 1983 formal start of EPDAC. Hagler, Bailly & Company of Washington, D.C. was competitively selected in 1983 (September 15, 1983) as the ECSP support contractor while Oak Ridge National Laboratory (ORNL) was chosen to support EPPD under a PASA arrangement formalized in 1984 when the work started. In 1987, Hagler-Bailly won a competitive bid to continue the ECSP until 1992, and ORNL was chosen to continue EPPD support.

The goal of EPDAC was and is to promote the economic growth and increased productivity of developing countries by providing energy and power at the lowest possible economic, financial and social cost. The purpose of EPDAC is to provide technical assistance in energy policy development and conservation to developing countries so that they may effectively address energy problems. This has been and will be accomplished through analysis, institution building and policy development. Specifically, EPDAC seeks to: (1) assist lesser developed country (LDC) governments to develop institutions, personnel and processes capable of effective energy policy-making; (2) provide assistance in designing and implementing policies, programs, projects and

investments needed to relieve chronic and severe energy and power problems, and minimize vulnerability to future uncertainties in energy prices and availability; and (3) help LDCs achieve measurable improvements in energy efficiency, reliability and national energy self-sufficiency.

The EPDAC project through June 1987 has been successful in providing its services in the field, with the ECSP initiating projects in 18 countries and the EPPD in 12 countries. In this context, the EPDAC project met the goals originally set for the activity.

The EPDAC project was originally designed to be responsive to the overall AID agency emphasis on private sector, technical assistance, technology transfer, institution building, and economic impact, and the renewed project activity (July '87 onward) retains the same intent plus responsiveness to Congressional mandates to address the deepening third world power crisis.

The ECSP budget for Hagler, Bailly & Company from 1983 to contract end in May 1987 was $2,980,275 of which $1,035,000 was contributed by Regional Bureaus or in-country AID missions. It is also relevant to state that other directly mission-funded activities have resulted as follow-ups to ECSP activities, as did complementary activities funded by such organizations as the World Bank. The ECSP activities generated many times its own expenditures in follow-up activities.

The EPPD funding for ORNL from 1984 through 1987 was $5,897,168 of which $1,341,595 were buy-ins from Regional Bureaus or in-country AID missions. The EPPD activities also led to complementary activities funded by the World Bank and others, as well as new program activities in S&T/EY which are now being handled outside the EPDAC framework.

The total EPDAC budget for the next 5 years is estimated at $20 million with $10 million of Office of Energy funds and $10 million in buy-ins. An in-kind contribution of at least $2 million is also expected for host-country governments.

C. Evaluation Emphasis and Procedures

The objective of this evaluation is "to determine how successful the EPDAC Project has been in attaining the original project objectives and to make recommendations for improving the project efficiency and impact". As EPDAC now has both a definite history and at least another 5 years project life, it is imperative to evaluate the project for lessons learned in order to make the appropriate mid-course corrections.

It must be pointed out that this evaluation is not simply one of support contractor performance but also of the Office of Energy's management of EPDAC, all project related activities between the Office of Energy and the Regional Bureaus and in-country Missions, in short, an evaluation of all facets involved in EPDAC Project implementation.

IT Power was contracted to carry out the evaluation using the IQC mechanism under a joint IQC with Energy/Development International. The evaluation team members were Robert A. Chronowski, team leader, President of IT Power and well experienced with developing country energy policy issues and implementation of energy programs and projects; Roger LeGassie, Vice President of Technology and Management Services Inc. and former senior level official with the US Department of Energy, ERDA, and the Atomic Energy Commission; and Dana Younger, an Associate at Dames & Moore and formerly a USAID ANE energy officer.

The Scope of Work prepared for this evaluation is included in the Appendices Volume of this report and contains a list of relevant evaluation questions. Based on the evaluation questions to be answered, the maturity of the project, and its worldwide dimension, the following was the basic sequence of work carried out leading to the preparation of this report:

- Background discussions with relevant AID staff in the Office of Energy and Regional Bureaus.
- Gathering of project documentation from both Hagler, Bailly and ORNL.
- Interviews with Hagler, Bailly and ORNL management and support staff.
- Selection of AID missions for in-country activities and Mission contact through appropriate protocols.
- Field visits to the Near East, Asia, Latin America and the Caribbean.
- Contact with the World Bank and the Inter-American Development Bank.
- Interviews with other relevant AID staff with historical involvement with the project.
- Telephone interviews with additional AID missions to supplement information base.

The ability of the evaluation team to formally visit all of the countries desired was limited by the political instabilities and conditions in the Philippines and Sri Lanka (both with significant historical EPDAC activities), Mission clearance problems in Morocco and Thailand where mission busyness and the Christmas holidays were cited as reasons to delay, or not have a visit, and ANE Regional Bureau clearance problems where staff differences on the definition of relevant countries precluded visits to Indonesia and India. However, with 5 actual in-country visits (Egypt, Pakistan, Costa Rica, Guatemala, and the Dominican Republic), interviews with people with direct in-country experience in Liberia, Morocco and Sri Lanka, in-country visits to Thailand, the Philippines and Jamaica on other project business, and telephone contacts in the Philippines and Thailand, sufficient background information was obtained so that a comprehensive evaluation was achieved.

This report represents a compilation of the integrated team findings. It was written primarily by the Team Leader with direct inputs from the 2 other team members. Individual member travel reports are included in the Appendices Volume of this report, and key points have been included in this text. As wise use of a limited travel budget would not permit all 3 team members to visit each country, the in-country inputs were necessarily gathered through one member's eyes and polished by discussions between members after the travel experience.

III. PROJECT ACTIVITIES

A. Current Project Status and Structure

The EPDAC Project was originally designed as a singular project with the 2 related project components, ECSP and EPPD, to acknowledge the interrelationship between the 2 areas. What quickly evolved and is now in place for the next 5 years still has the 2 same components, but the ECSP is supported by a for-profit, commercially oriented private sector consulting firm, Hagler, Bailly, while the EPPD is supported by ORNL with its non-profit, government national laboratory institutional characteristics. Other than for a rare collaboration, the 2 components, for all intents and purposes, are, and function, as 2 independent projects. Both ECSP and EPPD activities have been successful in developing in-country activities, however, while the Hagler, Bailly activities can be categorized as having only 15% or less of total contractor effort devoted to S&T/EY Washington support, the ORNL activities resulted in a somewhat greater than 15% of effort devoted to S&T/EY Washington support.

B. Project Activities To-Date

1. ECSP - A broad range of activities were initiated by Hagler, Bailly under the ECSP. The objective of the ECSP was (and still is) to promote energy conservation in industry, transportation, electric power generation and transmission, and commercial and institutional building design and operation. The ECSP activities were initially intended to focus on high-payoff areas in countries most likely to achieve large and immediate improvements in their energy efficiency. The strategy for approaching ECSP activities was to build an indigenous capacity within AID-assisted countries to perform energy conservation activities. ECSP projects worked at both the grass roots level--training and educating engineers, equipment operators, and owners--and at the national level--developing energy conservation legislation and designing and initiating national energy conservation programs. ECSP activities were undertaken in 18 countries; 37 major projects were initiated in 7 categories; and 110 reports, presentations, manuals and other papers were prepared. The 7 project categories were as follows:

(1) Program Planning: Provided extensive information for the development of energy conservation program plans in the Philippines, Pakistan, Thailand, Egypt, and Morocco. In addition, in collaboration with ORNL, provided support to S&T/EY in developing their program plan.

(2) Training: Energy audit and energy demand management training in Sri Lanka and Ecuador and development of training manuals for use throughout the world. Transportation energy conservation in Costa Rica.

(3) Energy Conservation Potential Analysis: Evaluation of energy conservation potential in transportation in Costa Rica and the Dominican Republic, in agriculture in Sri Lanka, in industry in Haiti, and energy audits and feasibility studies in Sri Lanka.

(4) Non-Utility Power Generation and Cogeneration Potential Analysis: Evaluation of the potential for, and barriers to, non-utility power generation in Pakistan, Thailand, India, and the Dominican Republic. Market analysis of cogeneration worldwide, and assembly of a technology transfer team for facilitating cooperation between the U.S. private sector and LDCs.

(5) Policy Analysis: In-depth evaluation of the issues on well-defined topics of importance to energy conservation in developing countries, such as: financing energy conservation, guide to U.S. energy efficient equipment, road transportation energy conservation measures, and barriers to private sector investment in energy conservation.

(6) Program Evaluations: Evaluations of energy conservation programs in Ecuador, Peru, Dominican Republic, Djibouti, and a regional effort in Central America and Panama.

(7) Conferences and Information Dissemination: Organized and ran workshops on energy conversion and power generation in Latin America and Asia-Near East. Wrote, published, and distributed a wide variety of material to disseminate information about AID energy conservation activities.

2. EPPD - The EPPD activities of ORNL under EPDAC can be broken down into centrally funded activities and mission buy-in activities. Activities were initiated in 12 countries and in all 3 Regions (ANE, AFR, and LAC). To meet its project demands, ORNL has used 78 consulting firms, universities, national laboratories, and private consultants in addition to ORNL staff. ORNL has produced more than 40 publications, reports, and working papers under the EPPD. The EPPD activities have evolved dramatically from the early national energy planning days in Liberia (1982-1985) where establishing data bases, energy planning units, and producing national energy plans was the goal to a more focused goal of:

- Policy and institutional reform, with special attention to energy pricing;
- Strong private sector involvement in capital mobilization, resource development and management, technology innovation and commercialization;
- Improved energy investment decision making with special attention to least cost power investment planning.

Activities under the EPPD now try to emphasize the policy and institutional environment and investment climate affecting energy supply and demand choices. The EPPD gets involved with the energy resource development, energy conversion technologies, and efficiency of energy utilization from the perspective that these activities will result in improved investment decision making, development of strategies for commercializing the outputs of R&D programs, and leading to pricing reform. The activities can and do deal with a broad range from household energy applications to huge central power systems applications.

C. Implementation Methodologies

As previously stated, the EPDAC contractors were selected in 1983 and 1984 (Hagler, Bailly for the ECSP in 1983 through a competitive bid process, and ORNL for the EPPD in 1984 through a PASA arrangement with US DOE). As the focus of the work for EPDAC had to be "in the field", agreement was solicited by S&T/EY in various ways from host countries, missions, and Regional bureaus to define specific scopes of work and financial arrangements to get the projects underway. The ECSP was very successful

in generating country requests and moved into the field rapidly as its "product" energy; hence, money savings was viewed (and still is) as relevant and desirable. It was relatively easy for Hagler, Bailly to get into countries to define what should happen next, and with good performance and aggressive marketing for follow-up activities to develop. Early activities started in Sri Lanka, the Philippines, Singapore, Thailand, Indonesia, Malaysia, and Costa Rica between September 1983 and June 1984. The EPPD which did not have a simplistic "product" to market was slower to broadly penetrate the field, and it was 1986 before the activity level accelerated significantly there.

IV. EVALUATION FINDINGS AND ISSUES

In the Office of Energy, the EPDAC Project is under the management of Jim Sullivan, Director. The Office of Energy falls under the auspices of Jack Vanderryn, Head of the Science and Technology Bureau of AID. The Project Managers for the 2 EPDAC components are Alberto Sabadell for the ECSP and David Jhirad for the EPPD. There are essentially no other staff working on the EPDAC, such that necessary support services are provided by the "contractors", Hagler, Bailly and ORNL or are performed by the project managers. As the focus of the EPDAC activities is "in the field", effective project management would normally require close field monitoring of all field activities. As travel funds for S&T/EY staff are very limited, the contractors must, for the most part, perform project activities in the field such as coordination with AID mission staff and host government staff on project implementation and on follow-up project design, without the desirable on-site S&T/EY input. This situation is contrasted with, for example, the World Bank practice of having a Washington Bank staff on all "short-term" missions as the project supervisor and to deal with the host government even in countries where local bank offices exist. This situation is brought up with the evaluation team fully aware of the realities of travel budgets and AID bureaucratic structures, however, issues that will be discussed later in specific ECSP or EPPD sections could likely have been averted if more project management tools could have been employed.

There is another relevant fact of project management continuity. Throughout the EPDAC history, there has not been a continuity of management at any S&T/EY level. The Director of the Office of Energy has changed, as have the Project Managers for the ECSP and EPPD, as Office of Energy staff changes have taken place. When this is coupled with regular staff changes in AID missions and Geographic Bureaus, the only continuous project memory is with the "contractors", Hagler, Bailly and ORNL, whose staff continuity throughout the project life has been excellent, especially at the senior level.

A final general contractor staffing dilemma is the difficulty of developing staff expertise on-the-job in the field that is essential to the normal maturation of junior staff. While this is less a problem at ORNL which has a "stable" full of experienced people, Hagler, Bailly is faced with having to hire at a senior level for expansion of work base, instead of developing from inside, as each country mission and host government rightly insists on only the most qualified senior consultants. Impacts have already been felt because of this.

A. ECSP Findings and Issues

The evaluation team has found that the ECSP and its contractor, Hagler, Bailly, generally receive good performance marks from all sources. The ECSP is perceived as being responsive to mission needs, and the contractor performance has established a confidence factor that has been translated into a significant demand for additional services. When the new ECSP project cable was released worldwide, there were 18 responses with 12 asking for immediate ECSP assistance. The geographic distribution was 6 from ANE, 5 from LAC, and 7 from Africa. The responses from Africa and LAC are in direct contrast to the attitude of the AID Washington LAC and AFR Geographic Bureaus who have no energy priority as such in their current program goals, although regionally located AID offices such as ROCAP in Guatemala (Regional Office for Central American Programs) have recognized energy issues as priority areas, and have promoted and continue to use EPDAC services. This Regional Bureau attitude toward energy could be an inhibiting factor to the further providing of a needed service to the Region's missions and host governments.

With the above said, the first ECSP contract period can be deemed a success. While a success, there were certain areas uncovered where valuable lessons were learned, or should have been learned, or where contractor performance was rated as less than optimal that need to be dealt with to provide even better services.

The basic historical methodology of Hagler, Bailly for smaller countries, functioning as a short-term catalyst, requires and is receiving further attention as the lack of ability and/or willingness of AID missions and/or host governments to carry forward follow-up activities, or even to contribute comprehensively to initial activities can lead to potentially non-productive expenditures of ECSP funds. This has become apparent after evaluating the LAC region activities. The Moroccan experience as expressed by Mr. Steve Klein in a Washington meeting was that he gave an overall good performance rating for Hagler, Bailly and the ECSP, but he expressed some concern over the Hagler, Bailly economic approach that he suggested resulted in a funding delay for a demand management project in Morocco. He would not, however, hesitate to employ Hagler, Bailly again.

1. Management and Staffing

Keeping in mind that the lack of AID staff travel funds, and AID support staff, inhibits totally effective AID field project management, the ECSP contract does not contain a "management task" to allow totally effective project management by Hagler, Bailly. As a result, senior staff such as Henri Claude Bailly and

Alan Streicher must perform as active "doers" both in Washington and the field, where they specifically receive excellent performance marks. However, the multi-faceted, multi-country nature of the work inhibits the overall project management it needs to function more efficiently. Relying on "Overhead Management" for a complex project of this size is not optimal, and relies too heavily on the good will of the contractor, Hagler, Bailly who have done a reasonable management job under the circumstances.

Another staffing issue that has arisen in Pakistan and elsewhere is the level of performance of staff provided for follow-up activities, compared to the initial work of the project design team (using senior management staff on the front end and hiring other staff for long-term in-country assignments that follow). The ECSP activities in Pakistan are essentially a textbook success story. Mission activities developed the framework for an indigenous energy conservation implementing organization. Hagler, Bailly won the mission-funded competitive bid for the follow-on project. However, the allegiance factor for the mission-funded job is to the mission, and the information feedback loop to the ECSP Washington activity or to other missions is severely restricted by mission-applied management constraints. A more active participation by the S&T/EY Project Manager could potentially have assured the establishment of a more efficient information feedback loop. While this expanding work base is a tribute to Hagler, Bailly's excellence of performance and marketing, the potential impact on ECSP cannot be ignored, if additional major mission-funded activities are developed as Hagler, Bailly contracts. The overall evaluation of the Hagler, Bailly expatriate staff working on the mission contract in Pakistan, for example, was rated by mission and GOP staff as "satisfactory and adequate", but not of the scope or caliber necessary to function in a true counterpart, information and experience sharing mode. The caliber of the Pakistani professionals hired into ENERCON, the parastatal organization set-up to implement energy conservation activities, is of such a level that the Hagler, Bailly current mission-funded expatriate staff have become essentially additional staff to work side by side with the Pakistani nationals. This is not a bad situation, but not exactly what was expected by the government of Pakistan.

2. Responsiveness to Regional Bureaus

The only AID Regional Bureau to actively encourage energy activities is the ANE. Discussions between the evaluation team and ANE (Robert Ichord and Robert Archer) were lively, and ANE provided a series of constructive criticisms. In ANE staff estimation, Hagler, Bailly has had a reluctance to address relevant policy issues and to seemingly always look for a mission project solution.

The ANE comments were made in the overall context of ANE suggesting that Hagler, Bailly does good work and would continue to be used.

When a small support group such as S&T/EY, with independent budgets and management, develops broad scope projects that can have individual country appeal, and can impact on the use of Regional Bureau and Country mission financial resources, there are bound to be differences of opinion concerning priorities, etc. The evaluation team does not wish to suggest the existence of a disproportionate problem as 80% of the S&T/EY energy work is in ANE countries; much has been accomplished by S&T/EY and ANE. The evaluation team will, however, offer some recommendations in this report for improving the situation.

Initial contact with Jim Hester, the LAC staff responsible for energy, was brief and other than facilitating evaluation activities, clearing cables for mission visits, there was no interest in discussing energy initiatives, past or planned for the future. Energy as a topic was not deemed to be an important part of the LAC Regional Bureau program. At a debriefing meeting after the evaluation visit to the LAC region, Jim Hester listened attentively, but stated firmly that energy is not a priority in LAC.

Telephone contact with Mr. Carl Duisberg ROCAP Guatemala City, which has a regional project perspective, revealed a current interest in "energy" and an understanding of the need for, and relevance of, the types of services EPDAC can provide to the missions, country governments, and local regional institutions.

Contact with Mr. Bill Barron, the energy advisor to the Africa Regional Bureau, was constructive but suggested that the Africa Bureau focus was on natural resource management and human resource development. Energy activities would only be possible if worked into those contexts in competition for relatively scarce financial

resources of African missions. There were no ECSP activities in sub-Sahara Africa during the past contract directly funded by the ECSP. It is necessary to point out here that Mr. Barron's position of AFR Energy Advisor is an AFR Bureau buy-in to EPPD.

3. Responsiveness to Country Missions

The basic method of operation for the ECSP is to generate a mission request and to use ECSP funds to provide a short-term response and pave the way for mission funded (or funded by others such as the World Bank) follow-on activities that would implement the recommendations proposed by the quick response activity. This approach has been successful in the relatively larger missions such as in the Philippines, Egypt, Morocco to some extent, Pakistan, Thailand, and Sri Lanka but has not proven totally satisfactory in other smaller countries especially in the LAC Region where this approach has been described in-country as non-responsive to the local ability to work with broad brush diagnosis (requires complementary/supplementary local analysis), as being not sensitive enough to impact on local policy and social issues, and impractical to implement without follow-up assistance. There is some question here concerning the compatibility of the S&T/EY desire to increase the number of countries serviced, with the recent (new ECSP contract) setting-up of modified screening criteria for country involvement that includes an evaluation of in-country capability to contribute to and support ECSP efforts, before initiating any in-country activities. In smaller countries having lesser ability to contribute to and support ECSP efforts, a much greater expenditure of time, manpower, and money will be required in each country to achieve satisfactory results. This would suggest that activities will be initiated in only a select group of countries, and that these activities will be more intense with more follow-up, and use more of the ECSP budget. As 6 requests from African countries and 3 from LAC countries have been received under the new ECSP contract, the first contract experience in small countries should be utilized by S&T/EY and Hagler, Bailly to define a modified implementation plan that will not necessarily increase the number of countries serviced. This has already been started by S&T/EY and Hagler, Bailly.

4. Communication and Information Dissemination

The ECSP is a mature activity. Major efforts were undertaken worldwide under the initial contract and many reports were prepared. The preparation of these reports alone does not provide sufficient project feedback concerning lessons learned. The focus of ECSP activities, hence reporting, has been on the front end definitional activities, and the results of follow-up activities, if they exist, and the why not if they don't exist, are the most valuable outputs needed to grade the project, and plan for better or more efficient projects elsewhere. The "catalytic approach" of the ECSP contracts has not provided for the follow-up necessary to understand and document what works, what doesn't work, what effects the decision making process in certain countries under certain conditions, etc. As S&T/EY personnel change, and mission staff change regularly, the best mechanism for a feedback loop is the ECSP contract which could have a specific evaluation and feedback loop task added that revisits countries to document the lessons learned on a timely basis. Such an effort would provide an excellent management tool for S&T/EY, the Regional Bureaus, and for Hagler, Bailly. Hagler, Bailly is learning many lessons under ECSP, however, there is no clearly defined mechanism for documenting and extracting that knowledge for wider spread usage in the public sector. The ECSP should be a vehicle for transferring the hows, whys, and why nots of implementation successes; it is in a prime position for this.

Hagler, Bailly has put on various seminars, workshops, etc. under ECSP that have been rated well as informative, generally useful, well designed, well enough documented, etc. Hagler, Bailly knows how to communicate: there is, however, a communications gap related to the project methodology and this has had an impact on project management, project perception, and future project implementation potential.

5. Project Methodology

The methodology as described in Item 3--Responsiveness to Country Missions that is more or less standard ECSP working procedure, resembles a standardized generic product sold to try to satisfy too many diverse needs. With potential activities based on cable responses to the continued ECSP availability about to start in Africa, plus a continuation of efforts in Latin America, perhaps a modified methodology needs to be

devised to head-off problems that are likely to result if Hagler, Bailly continues business as usual. The evaluation responses from in-country sources in the LAC Region visit suggests that a modified approach will be necessary that will be more costly and time consuming for the ECSP contractor on the front end of the ECSP in-country activities in the smaller countries, but will result in tangible and lasting benefits.

6. Project Development and Implementation

The ECSP has now had a large number of experiences in a wide variety of countries. It has developed a knowledge and experience base that should allow the probability for new ECSP initiative success to be predicted with a high degree of confidence. Success in this instance is broadly defined as the development of an indigenous energy conservation promoting organization, the development and implementation of specific in-country projects that produce tangible energy savings or productivity increases, or the development and implementation of specific cogeneration and/or private power projects that help alleviate the critical LDC power shortage problem. Both the S&T/EY ECSP Project manager and Hagler, Bailly management indicated to the evaluation team that the new project screening criteria had already been improved, and that initiatives would only be started where a high success probability exists. Because of the limited extent of the ECSP resources, and the large number of requests for ECSP assistance, a better screening and prioritization of country responses is essential based to a large degree on potential for success rather than primarily on theoretical savings potential. This will require a bit more front-end analysis and documentation before starting in-country work, but should guarantee the most productive use of the limited resources.

7. Project Follow-Up

As discussed in Section 3--Responsiveness to Country Missions and Section 4--Communication and Information Dissemination, there are follow-up issues that have arisen in the evaluation process. Two types of ECSP follow-up were suggested as necessary, that are not now occurring. The first type of follow-up is with small countries where neither the AID mission nor host government has the capability, desire, and/or resources to take conceptual type recommendations based on a quick visit diagnosis and recognize, much less develop,

a useful implementation project. In these cases, assuming that the savings potentials are real, follow-up will be required to lead the in-country personnel/ institutions through the project development process step-by-step, including the furnishing of all analytical efforts, and the timely explanation of these to the concerned in-country counterparts. This approach, for example in Costa Rica, could have resulted in achieving the desired impact in the transport sector, while now the current savings impact is questionable. A similar situation exists in the Dominican Republic.

The other type of follow-up deals with all completed and sufficiently mature activities where a revisiting and self-evaluation need to be done after some elapsed period of time to assess impact, or lack thereof, and to document the lessons learned for dissemination throughout the AID network, and even to such organizations as the World Bank, the Asian Development Bank, the African Development Bank and the Inter-American Development Bank, all of which are involved in similar activities. As this activity has a financial cost, it itself must be approached as an overall money, time, and effort saving activity. To have the maximum impact in transferring implementation successes or failures (lessons learned), the results of this type of follow-up need to have widespread and timely dissemination.

B. EPPD Findings and Issues

The evaluation team have generally received primarily either neutral or lack of knowledge responses to field inquiries concerning the EPPD and ORNL as the EPPD contractor. The surprising finding was the lack of awareness of ORNL as its "contractor" for field services at S&T/EY expense. Other than possibly one AID staff person per country mission, EPPD was a mystery, especially to host government counterparts in the few countries visited. EPPD was redirected in 1984 to address a new energy policy environment in LDC's. This was combined with S&T/EY's own program planning. This effort was completed in 1986 which means that the current EPPD is a relatively young project. In addition, the institutional characteristics of ORNL, and the initial funding arrangement with AID which passed the money first to DOE, have caused some implementation problems with the work being ahead of the funding, and ORNL people not being available on a quick response basis, but this is being addressed by a more direct funding channel. ORNL, like Hagler, Bailly, does not have a <u>large</u> core of staff dedicated full-time to EPPD, hence, access to specific people within the large staff resource at ORNL will require longer lead times and better planning than is now the case. Among the major issues to evolve are management issues

where the less well-defined and focused EPPD effort was used early-on as a planning arm for S&T/EY as it rethought its own direction and staffing. This ORNL role grew to where ORNL had multiple "masters" in S&T/EY, by precedent, and had oriented its staff resources to S&T/EY to the detriment of field activities. Evaluation team field visits to ORNL, where a very impressive people and institutional resource is present, and to the field where this resource is not recognized, nor is the mechanism for accessing it, have led to the question of why ORNL's availability is not advertised and marketed as are those of Hagler, Bailly and the ECSP. Partly this can be answered by the institutional nature of ORNL and its staff who do not normally market or compete for providing services, but as far as S&T/EY is concerned, a worldwide cable went out to advertise the renewed availability of ECSP services when the new contract was signed, whereas no one in the field could recall receiving a similar cable on the EPPD and ORNL services as one was not sent. One of the successes noted by ORNL is the development of an Energy Policy Resource Center in Washington which includes information data bases and significant other information sources, but outside of S&T/EY, there is only token acknowledgment of even its existence and no acknowledgment of its worth or how to access it. This is surprising as the Geographic Bureaus should be both accessors of the data base, and channelers of information to country missions. Again, it looks like lack of advertising is the issue, as the resource definitely has value and relevance to others beyond S&T/EY. The most favorable comments about ORNL EPPD work come from Steve Klein in Morocco who stated that the impact of a specific ORNL policy paper was excellent in terms of timing and usefulness, and from Pakistan where ORNL's contribution to the design of the mission's planning project was said to have been very well done by James Bever on a timely basis.

1. Management and Staffing

As indicated above, a major management issue is the multiple task master evolution of the EPPD and the heavy reliance of S&T/EY on ORNL as a technical assistance vehicle for a variety of its own programs. In all fairness, in recent years S&T/EY has had a combination of staff changes and unfilled staff slots to contend with, which ORNL's institutional characteristics were compatible with providing an interim solution to. The issue is the need for setting the precedent aside now, and proceeding with expanding services to the field. Recent additions and position changes in S&T/EY should help this situation.

As previously stated, ORNL theoretically has a large staff of very experienced senior people to devote to EPPD work. From the missions and host government standpoint, there were some generic complaints aimed at all U.S. National Laboratories such as: poor language capability; poor cultural sensitivity; highly academic nature; and a recent past history of poor experiences with primarily Los Alamos National Laboratory and Argonne National Laboratory, which causes guilt by default for ORNL. Overall, there was insufficient association by mission and government staff with ORNL to generate many credible comments. On the other hand, there was interest shown in all countries to find out more about the ORNL resource and the EPPD, and to explore the possibility of EPPD assistance from a better informed standpoint in LAC countries, Pakistan and Egypt.

2. Responsiveness to Regional Bureaus

From the ANE Regional Bureau, there were comments such as: a regular exchange of information on policy issues is not experienced; ORNL produced reports are not circulated routinely; ANE doesn't have knowledge (list) of ORNL output documents; and ANE has not been advised as to how to access the data from the ORNL developed Energy Policy Resource Center. A recent development of having regular scheduled working meetings between ANE and S&T/EY staff is a good start on resolving a communications issue and should provide the regular forum for preventing problems in the future. Both S&T/EY and ANE have separately agreed that energy activities involving their mutual cooperation will continue to occur and that a balanced working relationship is being sought by both. The Africa Bureau has acknowledged the EPPD with a buy-in to have ORNL supply on Energy Advisor, Bill Barron, to the Bureau. However, the Energy Advisor has been tasked with mostly Natural Resources work since his arrival on the job reflecting the overall Africa Bureau attitude toward energy.

3. Responsiveness to the Country Missions

Specific comments from country missions on the ORNL and EPPD responsiveness have been mixed. Steve Klein from Morocco was very positive with regard to an ORNL energy policy paper that was timely and useful to the mission. James Bever in Pakistan was positive regarding ORNL support provided for the design of the mission's own

energy planning project, and made a large buy-in for a Pakistan Coal Conference, yet a mildly negative response was obtained from other mission staff on the overall performance of ORNL on the coal briquetting work done in Pakistan. The experience in Costa Rica where ORNL provided support to a Hagler, Bailly transportation energy conservation initiative was brief, but flavored by lack of language capability and lack of experience with developing country problems. Even saying this, there was interest expressed in tapping into EPPD and ORNL in Costa Rica and the other countries visited after some explanation by the evaluation team member about what EPPD is. There was a lack of knowledge in the visited country missions of what EPPD is, and what support is available. Energy policy, especially regarding pricing issues, is a sensitive and relevant issue to missions because of the economic implications, and EPPD can be sold as a tool for addressing such "economic" issues.

4. Communication and Information Dissemination

The major issue regarding the EPPD and ORNL is the lack of communication or dissemination of information about what this resource is, and how to get at it. The communication lacking needs to be addressed starting at the S&T/EY Project Manager level with a worldwide cable, and needs to have a definite promotional flavor that ORNL would not normally produce without specific guidance and direction. There was obviously also an issue of poor perceived communication between EPPD/ORNL and the ANE Geographic Bureau compared to a pronounced lack of interest by the LAC Geographic Bureau, and the Africa Bureau buy-in to an ORNL staff under EPPD to maintain communication links. EPDAC is a project that can have significant economic impact in many sectors of a developing country. It is not simply an energy project. Whenever foreign exchange savings can be made, it will be of interest to economists, politicians, etc. and EPDAC certainly has that potential. It needs to be advertised more actively from this perspective and at "high-level" audiences. This approach would dictate showing how EPDAC related to and contributed to AID's overall developmental mission. An example of the extra type of activity needed would be for Jack Vanderryn to make a presentation about EPDAC at Country Mission Directors Conferences and other such appropriate level forums within AID and beyond.

5. Project Methodology

The EPPD does not seem to have developed a methodology comparable to that of the ECSP. In short, the product has not been well enough defined to package for advertising; and the contractor, ORNL, does not want to take the Hagler, Bailly business development approach once out in the field. At this point, the evaluation team does not wish to say whether this is rational on the part of ORNL, but the situation of a wanted and needed but untapped resource is not desirable and needs to be rectified.

6. Project Development and Implementation

As with the Project Methodology, ORNL has tried to function with its institutional characteristics maintained. In Liberia, a formal energy planning project was conducted with a long-term energy advisor in-country and tapping ORNL's technical base as needed for short-term support. While the project could be viewed as successful, and a great learning experience, in the sense of developing an indigenous institutional energy planning capability through a counterpart approach, the actual planning results after a promising start were not wholly implemented, nor the data bases used productively, because the serious political turbulence associated with the Doe government, and the futile attempts at free elections disrupted essentially all progress in all sectors. The tangible results did include shutdown of the Liberian oil refinery saving about $15 to $20 million per year, and a rehabilitation of an existing hydro plant as the least cost solution instead of building new capacity before the political turmoil disrupted such progress.

ORNL has had involvements in Haiti, Bangladesh, Pakistan, India, Ecuador and Sudan, again with mixed reviews about the level of performance, and no real central focus for its various involvements. Most recently, ORNL has developed an assistance potential in India through and with David Jhirad for the Project for the Acceleration of Commercial Energy Research (PACER). This suits ORNL's institutional nature very well. This activity has a relatively high dollar value budgeted at $20 million over 6 years, and it focuses on commercialization of R&D efforts through relevant institution building in-country and does fulfill facets of the desired policy development role envisioned for EPPD by S&T/EY. The policy development strengths of ORNL need to be actively promoted if the EPPD is to

reach its potential. PACER-type activities in other ANE countries could be one market initiative for EPPD. The need for EPPD services does exist out in the country missions.

7. Project Follow-up

There has been a significantly smaller number of in-country activities for the EPPD than for the ECSP, hence, a smaller base to sample for feedback. There have been some indications from both the ANE Geographic Bureau and from the Pakistan AID mission that final reports are produced slowly by ORNL. Although in Pakistan, the mission draft report review process certainly contributed to the overall lateness. There was also some indication from the Pakistan mission that administrative coordination to access ORNL people varied from very good to ineffective. For example, to assist in the project design for development of the mission energy planning project, ORNL through EPPD, was very responsive and very fast responding. On another occasion, the Pakistan Mission reported trying to access ORNL for some transportation conservation assistance, however, ORNL has no record of having the request. The issue identified, therefore, is that the role of ORNL in responding to EPPD needs requests does not appear to be defined in such a way as to acknowledge the limits of the institutional nature of ORNL and, equally important, there is no evidence that if a response mechanism has been developed, the procedure for accessing ORNL and its resources has been communicated to the Geographic Bureaus and Country Missions.

C. Relationship between EPPD and ECSP

The EPDAC project originally tied 2 separate areas together as 2 project elements or components because of some mildly relevant interdependences such as energy pricing, but also because of a perceived increased probability of getting full funding during difficult budget times. As time has passed, the energy situation evolved in the U.S.A., and now worldwide, in response to lower oil prices and an increasing demand for electricity, by looking to new sources of capital for increased power production. The new sources are primarily from the private sector, and the activity level for private power and cogeneration initiatives is rapidly escalating. The contracting delineations between EPPD and ECSP are not necessarily clear, nor rational. EPPD has responsibility for power systems planning and energy pricing policy development, yet ECSP has responsibility for cogeneration

project development and private power project development. A past criticism of ECSP and Hagler, Bailly was the reluctance to deal with policy issues (voiced most strongly by ANE but also heard in the missions) and to look for only project solutions, even though "Policy Analysis" was included in the original ECSP contract scope of work. There is some truth to this, but in all fairness, Hagler, Bailly's charter was for catalytic impacts leading to project development, and a success criteria based on project development, inhibits dealing extensively with policy issues. However, there was some effort by Hagler, Bailly to understand and document constraints to project implementation that were cited as relevant and well done. It would seem again that communications and information dissemination are more at issue than performance.

An issue could be identified in that the ECSP contractor, Hagler, Bailly who made significant geographic inroads in private power and cogeneration development, did not function as an EPDAC project participant in those activities. EPPD is an EPDAC resource and ECSP activities dealing with private power could have been used to promote an ORNL support role through EPPD that would have strengthened the performance overall and added to the credibility of any output. On the other hand, if Hagler, Bailly is not managed actively and routinely in field activities, and its project guidance directive does not include use of the EPPD to back-up private power initiatives, its performance is not subject to criticism, but the overall strength and value of the ECSP services can suffer and EPPD will be underutilized. Even in the basic ECSP conservation activities, energy pricing policy is an important contributor as a potential inhibitor of project success. ORNL through EPPD has not been utilized by ECSP in this area, although the assistance could be extremely valuable to ECSP while helping EPPD get into the energy policy development scene in-country as a demonstrator of what can be done in the policy area. There appears to be no policy of leveraging services between project components which should be a natural occurrence with active S&T/EY in-the-field management. The institutional nature of ORNL should make such a cross fertilization palatable to both Hagler, Bailly and in-country sources.

V. CONCLUSIONS AND RECOMMENDATIONS

A. Overall Assessment

The EPDAC Project in its first 4 years (Sept. '83 - May '87) seldom functioned as an integrated project with 2 related components, however, each separate component can be credited with some notable successes. The ECSP has had undeniable successes from initiatives in key countries such as Sri Lanka, the Philippines, Pakistan, Egypt, and Morocco. Demand for ECSP services continues to be strong from country missions in response to the new 5-year ECSP project continuation announcement with 18 responses received (7 from Africa, 6 from ANE, and 5 from LAC) with 12 requests for immediate assistance. Defining success as actual energy saved, feedback of in plant results in Pakistan have industries now documenting significant energy savings following a host of low cost, no cost, and training initiatives. Defining success as building an indigenous energy conservation capability reveals such capability functioning at various levels in Sri Lanka and the Philippines (Indigenous Energy Managers Association), and rapidly developing in Pakistan, Morocco, and Egypt. As a final measure of success, the ECSP Washington funded activities served to leverage additional investments in conservation activities by Geographic Bureaus, Country Missions, and the World Bank in Sri Lanka and Indonesia.

There were, however, lessons learned over the first 4 years of the ECSP that need to be acknowledged and worked into the management and implementation of the new ECSP 5-year project.

- There was a perceived poorer performance record in the small LAC countries with some short-term activities but little real progress, and a noticeable scarcity of ECSP activities in Sub-Saharan Africa even in countries with energy activities in their portfolios such as Djibouti, Malawi and Bostwana. The quick and low-cost response methodology used in LAC does not appear to be able to lead to implementable activities to be carried out without further ECSP involvement. A new methodology should be developed for these regions which considers more S&T/EY involvement if any activity is to be started.

- As James Bever stated in Pakistan, "Yes, there were ECSP results but there appear to be half the savings at twice the cost!" The lessons learned in ECSP and elsewhere suggest that the energy savings potential in

reality is much less than theoretically possible. While Hagler, Bailly acknowledges this, and does try to categorize savings potential to downgrade expectations, the lessons learned should change project methodology to less front end data collection, surveying, audits and feasibility studies, and immediate focus on low cost, no cost initiatives that are readily acceptable for implementation and produce concrete results early, helping newly starting conservation activities and organizations to gain momentum. Project start-ups need the benefit of lessons learned elsewhere, hence, monitoring and feedback activities need to be included in the overall ECSP methodology.

- It is obvious that with the advent of A. Sabadell assuming the ECSP AID project management role that Hagler, Bailly with A. Sabadell have looked for lessons learned, and have implemented some "mid-course" corrections such as the ECSP Advisory Board, and changes to the ECSP methodology that require follow-up definition for new projects prior to start of work. These were needed and should provide a confidence base for implementing further management and operational changes.

- There is really no vehicle, other than contractor goodwill, to transfer lessons learned in one country to other missions. Lessons learned in Pakistan, Sri Lanka, the Philippines, and elsewhere have potential applicability in Egypt and Morocco and possibly elsewhere. The publishing of an Update-Outreach Publication 2 to 3 times a year by Hagler, Bailly is okay as a shotgun approach, but much more is required of a specific nature.

- There are insufficient management tools available to allow for adequate project management by either S&T/EY project managers or Hagler, Bailly management. This potentially allows many complications to develop which could be avoided by providing the S&T/EY project manager with more travel flexibility and additional staff support (this is acknowledged as highly unlikely to occur), and to develop with the contractor Hagler, Bailly a management task which would provide at least some accountable field management by which S&T/EY could actively exercise through senior Hagler, Bailly managers.

Likewise, the EPPD can be described as a success based on various criteria such as Country Mission and Regional Bureau buy-ins which resulted in $1,341,595 out of a total EPPD budget of $5,897,168 through 1987. Policy reports were produced that got a good response as timely and useful. However, the results of the field and Geographic Bureau evaluation did not reflect an overall attitude of success:

- ANE was basically negative toward ORNL and EPPD as being not responsive. LAC was not overly interested (while its country missions were), and the Africa Bureau has bought into EPPD via an energy advisor to the Bureau, but predicts little energy activity.

- ORNL has been acknowledged as having concentrated on assistance to S&T/EY. While the S&T/EY need for these services was and is still real, the acknowledged intent of S&T/EY and ORNL is to get EPPD out into the field at an accelerated pace.

- The EPPD has not received the promotional efforts that the ECSP has benefited from. ORNL provided the evaluation team with relevant descriptive materials such as summary staff cv's including experience in developing countries, lists of projects done, reports prepared, computer models available, etc. By simply packaging this with a brief EPPD descriptor and primer on how to access the ORNL services, and adding small touches like language capability to cv briefs, the perfect EPPD "marketing" document can be sent to Geographic Bureaus and appropriate Country Missions. There was an incredible amount of ignorance regarding the EPPD in the field for a supposedly mature and relatively high dollar rate project.

- ORNL staff, when they reach the field for any reason, need to learn a bit from Hagler, Bailly and not be reluctant to market their services. Promoting EPPD and ORNL's unique capabilities does not adversely effect the national laboratory image of ORNL.

- There is definite need for and relevance to the services that EPPD is designed to provide. The management action required is to develop a Regional Bureau and Country Mission association between the Policy problem areas and the contribution that ORNL, through EPPD, can make.

- ORNL has been trying to address policy issues and has been producing some useful products. There is, however, a necessity to relate the policy issues themselves to historical experiences and to practical steps that can be used by a sometimes tenuous government to implement beneficial policy changes without immediately causing extreme social distress, or inciting social turmoil. For example, in the energy pricing area which directly relates to the energy subsidies commonly employed in developing countries, there is much written by others about the macro and microeconomic impacts of pricing distortions such as the recently published (October 1987) MONEY TO BURN, The High Cost of Energy Subsidies by the World Resources Institute. The developing country governments are painfully aware of the subsidy problem; they need help with a workable solution. ORNL started recently and should continue the search for pricing reform "success stories" in the third world, transferring the whys and wherefores of the implementation successes through papers, reports, seminars, etc. that are presented in at least English, Spanish, and French. This should be the normal ORNL operational methodology for providing policy development assistance from the S&T/EY provided "core" funding.

- Dr. David Jhirad as the EPPD project manager should be commended for establishing a good dialogue and cooperative efforts with the World Bank and other multilateral financing agencies. He should be encouraged to continue in this activity and to expand it to all facets of the EPPD.

The overall conclusion of the EPDAC evaluation is that while each of the 2 components of EPDAC (the ECSP and EPPD) was successful to a certain degree in the period up to May 1987 and project renewal in July 1987, the performance can be significantly improved in the next 5 years in both components. The major challenge is to make more efficient and effective use of ORNL and the EPPD component as a support mechanism for all EPDAC activities. S&T/EY needs to use the institutional characteristics of ORNL to its advantage. S&T/EY also needs to manage both the ECSP and EPPD more tightly to encourage this to happen. Hagler, Bailly should be promoting the EPPD in 2 ways: in support of its own ECSP activities to add credibility to sensitive areas such as energy pricing that will heavily impact the success of energy conservation and private power initiatives and, secondly, as an independent support mechanism for bringing all S&T/EY resources to the mission and host government attention wherever ECSP staff function.

The EPDAC project managers and contractors are to be commended for their successful interface with such institutions as the World Bank, and the successful leveraging of funds and follow-up projects that have resulted through both ECSP and EPPD efforts. As the World Bank structure is much more fragmented, the EPDAC project managers are encouraged to continue to provide briefings for additional Bank country staff groupings, and to promote the development of more joint initiatives on a regular basis.

B. Recommendations

The evaluation team suggests that the EPDAC project can better achieve its desired goals and improve upon the success of the first 4 years if certain operational and management changes are implemented.

The recommendations are (Responsibility):

1. A promotional package for the EPPD and ORNL should be prepared from existing resources and distributed to Regional Bureaus and selected Country Missions as soon as possible. (D. Jhirad - ORNL)

2. ORNL's status as an institutional entity should be worked into the EPDAC implementation strategy as an advantage, and not be viewed as a liability. (J. Sullivan - H.C. Bailly/A. Streicher - T Wilbanks)

   - Hagler, Bailly should treat ORNL as an asset to complement their own ECSP activities; and

   - Hagler, Bailly should include EPPD and ORNL as a mandatory part of their in-country marketing strategy for S&T/EY services.

3. A modified approach to providing ECSP services to small countries with weak infrastructures should be developed that includes sufficient follow-up activities funded by the ECSP Washington budget such that implementable activities are created in such countries. (A. Sabadell - Hagler, Bailly)

4. The S&T/EY desire to expand the number of countries serviced by EPDAC should be re-examined to consider the small country experience especially in the LAC Region

and perhaps a slowing down of new country initiatives is warranted until Recommendation No. 3 is dealt with. (A. Sabadell - A. Streicher)

5. Communications between the ANE Region, the LAC Region, the Africa Regional Bureau, S&T/EY and the EPDAC contractors should be improved by: (J. Sullivan - A. Streicher - T. Wilbanks)

   - Continuing or increasing the frequency of the recently instituted ANE-S&T/EY dialogue meetings.

   - Continuing to seek all Regional Bureaus' input into S&T/EY Planning Process.

   - Including all Regional Bureaus as timely recipients of all contractor internal project quarterly reports, all product reports, working papers, etc. prepared under EPDAC, and the annual S&T/EY overall program plan.

   - Encouraging the Regional Bureau use of the ORNL developed Energy Policy Resource Center by providing a show and tell session and a step-by-step process description of how to access the Center's resources.

   - Developing a results and lessons learned reporting mechanism for routine and timely dissemination of project experiences.

6. The Hagler, Bailly ECSP scope of work should be restructured and funds redistributed to contain 2 new tasks: (A. Sabadell - A. Streicher - AID Contracts Office)

   - a management task that would allow A. Sabadell to define and direct specific Hagler, Bailly field management activities with a better S&T/EY focus and accountability; and

   - a follow-up task that would allow Hagler, Bailly to revisit countries such as Sri Lanka, Ecuador, the Philippines, and Costa Rica to develop an ongoing self-evaluation of progress and impact necessary as a management feedback. The emphasis on the follow-up visits would be the why or why not things happened. The results of the follow-up should be documented and widely distributed (Geographic Bureaus, Country Missions) on a timely

basis. A follow-up in Costa Rica is needed, for example, to refine any new approach to small countries. A follow-up to Sri Lanka and the Philippines is required to objectively evaluate the actual lasting results of the ECSP earlier catalytic activities.

7. S&T/EY should work with the Pakistan Country Mission to ensure that the valuable Pakistan experience gained by the Mission funded implementation activity is translated into useful experience gained, lessons learned, and results achieved documentation that is available for other Missions to use, for example in Morocco and Egypt. (J. Sullivan - J. Bever)

8. The EPDAC needs to be presented to a high level AID country Mission level audience (Mission Directors, Chief Economist, etc.) as an economics driven and results producing aid to the missions, and not just as an energy project. This can be done directly at such forums as presentations at Mission Director's Conferences, and indirectly through very specific policy issue papers produced by ORNL under the EPPD that trace the economic impact of certain decisions through multiple sectors and which can produce tangible foreign exchange savings. While this is not a new concept and S&T/EY is well aware of the broad economic impact potential of EPDAC, it needs to be advertised in this way to a broader audience to build up a broader constituency within the Regional Bureaus, Country Missions, and Host Governments. (J. Vanderryn - J. Sullivan)

9. The 2 EPDAC component project managers should continue to develop a joint "marketing" strategy for an expanded approach to various World Bank Energy Division Country Group Managers for leveraging resources and achieving greater project impacts. The World Bank interest in private power (joint program with AID in Pakistan), conservation, and pricing issues, all fit nicely into the current S&T/EY implementation plan areas of interest. (D. Jhirad - A. Sabadell)

10. The S&T/EY support role of ORNL should be reduced to a level comparable to that recorded by Hagler, Bailly of about 10% but not greater than 15% of expended funds. This level will be needed to guarantee smooth functioning of all of the EPDAC as it exists with both bureaucratic and administrative needs that must be

serviced. Also, all assignments to ORNL under the EPPD should be directed through the EPPD Project Manager, D. Jhirad. D. Jhirad should have the authority to determine priority for ORNL efforts. ORNL should not be directly responsible to multiple "masters". In this sense, ORNL needs to be treated more like a contractor than an institutional resource. (J. Sullivan - D. Jhirad)

11. S&T/EY should maximize the amount of travel money made available to EPDAC project managers for field management activities. It is acknowledged that this will be a function of the overall priority attached to the EPDAC part of the S&T/EY energy portfolio and the total travel budget authorized. (J. Vanderryn - J. Sullivan)

12. ORNL in developing a modified EPPD implementation strategy should focus on how to develop a true supporting role structure whether supporting Geographic Bureaus, Country Missions, Host Governments, or Hagler, Bailly under the ECSP. The support role here is defined as not taking the lead role in the given activity. (D. Jhirad - T. Wilbanks)

13. S&T/EY should re-examine the EPDAC project to define clearly those component areas distinctly related such as private power, energy pricing, power system planning and redefine clearly the support roles of ORNL and Hagler, Bailly through EPPD and ECSP. With a clear statement of the roles and responsibilities, a more effective use can be made of each contractor, their activities can be better managed, and a better promotion of the EPDAC can occur. Joint use of both EPPD and ECSP contractors should become a normal event. (A. Sabadell - D. Jhirad)

14. Household energy continues to be a topic of critical importance and interest in many AID countries and an area where the expertise of ORNL is underutilized. The EPPD project manager and ORNL project leader should continue their accelerated dialogue with the World Bank regarding the possibility of joint efforts and leveraging of funds in this area where the Bank has shown great interest. The dialogue with the World Bank should include the Energy Sector Management Assistance Program (ESMAP) and various country grouping energy divisions in Asia, the Middle and Near East, Africa, and Latin America. (D. Jhirad - T. Wilbanks)

15. It is recommended that ORNL prepare a "traveling road show" for indirect EPPD promotion to present in at least 6-8 country missions. The basis for the activity would be to select up to 3 senior ORNL staff who have definite skills and experience to offer to the developing countries and to have such staff deliver a series of policy issue and practical and proven implementation action lectures based on such topics as the economic impact of distorted energy pricing and several others that will have appeal to the missions. The activity would also have the ORNL staff demonstrate some relevant computer models such as the "Expert System for Power Systems Planning" which have practical applicability and are not based on theoretical or academic approaches. The activity should spend no more than 2 or 3 days per mission and the activity should be accomplished in the next six months. It should be advertised in the cable sent out to offer EPPD services along with the promotional materials. (D. Jhirad - T. Wilbanks)

The reader is advised to read the the Appendices Volume to obtain further background and additional recommendations suggested during field visits by various sources. This section is designed to portray the major recommendations of the evaluation team. The whole report must be read to understand to gain the overall evaluation perspective.

In conclusion, the evaluation team is of the attitude that if the EPPD services are "marketed" adequately and the ECSP methodology modified to the degree as discussed throughout the report to better service small countries and to feedback results-type information, there will be a continuing and steady demand on both EPDAC project elements. ECSP might even decide to limit the number of new country initiatives to improve the in-country implementation rate by devoting more financial resources per country. Both EPPD and ECSP provide services that are perceived as relevant and needed by the country missions. Hagler, Bailly is keenly aware of the impact of low oil prices on traditional conservation initiatives, and has started and should continue to be innovative in its promotional activities to make the clientele aware that conservation includes and applies to productivity increases, production efficiency increases, development of building standards and codes, natural resource management, and manpower training and development to impact all of the above areas. The EPDAC Project is an appropriate service for S&T/EY to provide. While labeled an "Energy" project, EPDAC through both components can have significant economic impacts in the broadest context. It has application to power efficiency, agricultural productivity, industrial productivity, foreign exchange demand and availability, and even to the socially sensitive household

sector. The audience whom EPDAC is presented to needs to include people involved in these areas besides the traditional "energy" players. The simplistic recommendation to S&T/EY and its contractors is therefore to continue doing what you've been doing, advertise to a broader audience, but pay more attention to listening to the marketplace feedback, and adjust your course accordingly.

PDAAX-844

FINAL REPORT

EVALUATION OF THE USAID ENERGY POLICY DEVELOPMENT AND CONSERVATION (EPDAC) PROJECT #936-5728

February 11, 1988

VOLUME II - APPENDICES

Prepared for:

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I.T. Power Inc.
1015 Eighteenth Street, N.W.
Suite 801
Washington, D.C. 20036

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EXECUTIVE SUMMARY

The Energy Policy Development and Conservation (EPDAC) Project of AID's Office of Energy, Science and Technology Bureau (S&T/EY) completed its first 4 years in May 1987. Continuing demand for the services provided to Country Missions under the 2 EPDAC components, the Energy Planning and Policy Development Project (EPPD) and the Energy Conservation Services Program (ECSP), was sufficiently strong such that S&T/EY competitively bid for a new ECSP support contractor with Hagler, Bailly being selected in July 1987, and renewed the inter-agency agreement whereby Oak Ridge National Laboratory (ORNL) continued to support the EPPD under a PASA arrangement.

An evaluation of the EPDAC project has now been completed and this report documents the evaluation findings. The tone of the evaluation was set by the "goal" of the EPDAC project to promote the economic growth and increased productivity of developing countries by providing energy and power at the lowest possible economic, financial, and social cost through a series of specific support activities to the Regional Bureaus and Country Missions, plus the planned 5 additional years of EPDAC activity. The evaluation team, therefore, examined a large number of the EPDAC outputs, interviewed as many involved and interested parties as possible in Washington and in the field, and also focused on the overall EPDAC project management, as well as the support contractors. A basic integration of the findings and issues (detailed in Section IV) of the evaluation team suggests that:

A. The EPDAC components operated as separate and distinct projects, although there is some justification and need for closer cooperation in certain areas and an institutional structure compatible with such cooperation does exist.

B. Both the ECSP and EPPD can be classified as true successes based on a variety of criteria applied to define success, and the original EPDAC goals are being met, but the ECSP and Hagler, Bailly were clearly perceived in the field as the more responsive and desired contractor.

C. There were multiple management and implementation issues that arose regarding both ECSP and EPPD and their contractors during the evaluation that can provide a basis for redirection if the EPDAC activities are to reach their full impact potential.

D. The majority of the issues were related to or caused by project management (both S&T/EY and contractor) and/or communication difficulties.

E. The basic ECSP implementation strategy of quick response, short-term catalytic actions must be modified, especially for smaller countries with weak infrastructures to carry on either supportive or follow-on activities.

F. The EPPD and ORNL are underutilized for field support activities, and from the field perspective, there is too little knowledge of EPPD and the resources it has to offer.

G. LAC and AFR Regional Bureau attitudes toward energy issues do not coincide with the individual Country Mission and host government perspectives and demand for S&T/EY support is definitely present in many countries in these regions.

H. ANE will continue to be a major focal point for EPDAC activity.

I. EPDAC is not promoted actively enough anywhere as a flexible tool for addressing "economic" issues in multiple sectors. It must be perceived as more than just an energy project.

As a result of the evaluation findings, and development of specific issues, a series of recommendations is put forth by the evaluation team (detailed in Section V) for S&T/EY and its contractors to consider. The recommendations are all aimed at improving the efficiency and responsiveness of the EPDAC activities and for also communicating to a broader audience its successes and failures and, more importantly, the reasons for these happening. The recommendations are briefly summarized as follows:

A. ORNL's institutional characteristics should be promoted and exploited more actively for EPPD to reach a broader base of countries.

B. The ECSP project methodology should be refined to provide more comprehensive services to a probable smaller number of "small" countries.

C. Communication between S&T/EY, its contractors, and the Regional Bureaus should be improved.

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D. The EPDAC project should be marketed to a broader audience because of its legitimate potential for economic impact in the power sector, agricultural productivity, industrial productivity, foreign exchange demand and availability, household sector, etc. It is more than just an energy project.

E. The ECSP scope of work should be revised to add both a management task and a field follow-up activity task.

F. The EPDAC activity managers should continue to develop, at an accelerated pace, collaborative activities with the World Bank and other multilateral development banks such as the "Multi-Institutional Group on Power Innovation" and the Diesel Monitoring Project.

G. The orientation of the EPPD program toward S&T/EY program planning, while appropriate in 1984-86, should continue to be shifted toward field projects and related technical assistance.

H. S&T/EY needs to make more management tools available to the EPDAC activity managers such as increased travel budgets, and provide management tasks in the ECSP contract and the EPPD agreement.

I. ORNL should be developing an implementation structure to counter a current field image of too independent an entity.

The EPDAC project is without a doubt providing a valuable, relevant, and desired service within its defined scope of activities. Strong demand continues to exist for EPDAC or EPDAC-like services. Based on being responsive to the lessons learned in the first 4 years, the project can increase its value and effectiveness. By communicating better, it can also improve its image as a mature and proven performer.

APPENDIX A

ECSP BUDGET DETAILS

APPENDIX A

ECSP BUDGET DETAILS

Exhibit 1

Summary of ECSP Expenditures, by Type

	Revised Contract Budget[2]	Cumulative Expenditures Through 4/30/87[1]	
		$	%
Salaries	$803,383	$807,746	100.5
Fringe benefits	241,015	231,049	95.9
Overhead	992,179	984,274	99.2
Travel/trans./per diem	320,000	341,596	106.7
Other direct costs	250,000	242,278	96.9
Subcontractor	250,000	247,691	99.1
Total estimated costs	$2,856,977	2,854,634	99.9
Fixed fee	123,698	105,143	85.0
Total estimated costs and fixed fee	$2,980,275	2,959,777	99.3

1 Based on labor costs incurred and invoices received as of 4/30/87 and a review conducted by Hagler, Bailly's accountants. Some additional charges are expected before the contract books are closed.

2 $2,980,275 was obligated, of which $1,035,000 was directly contributed by Regional Bureaus and Missions. Another $70,000 has been contributed through another contract.

Exhibit 2

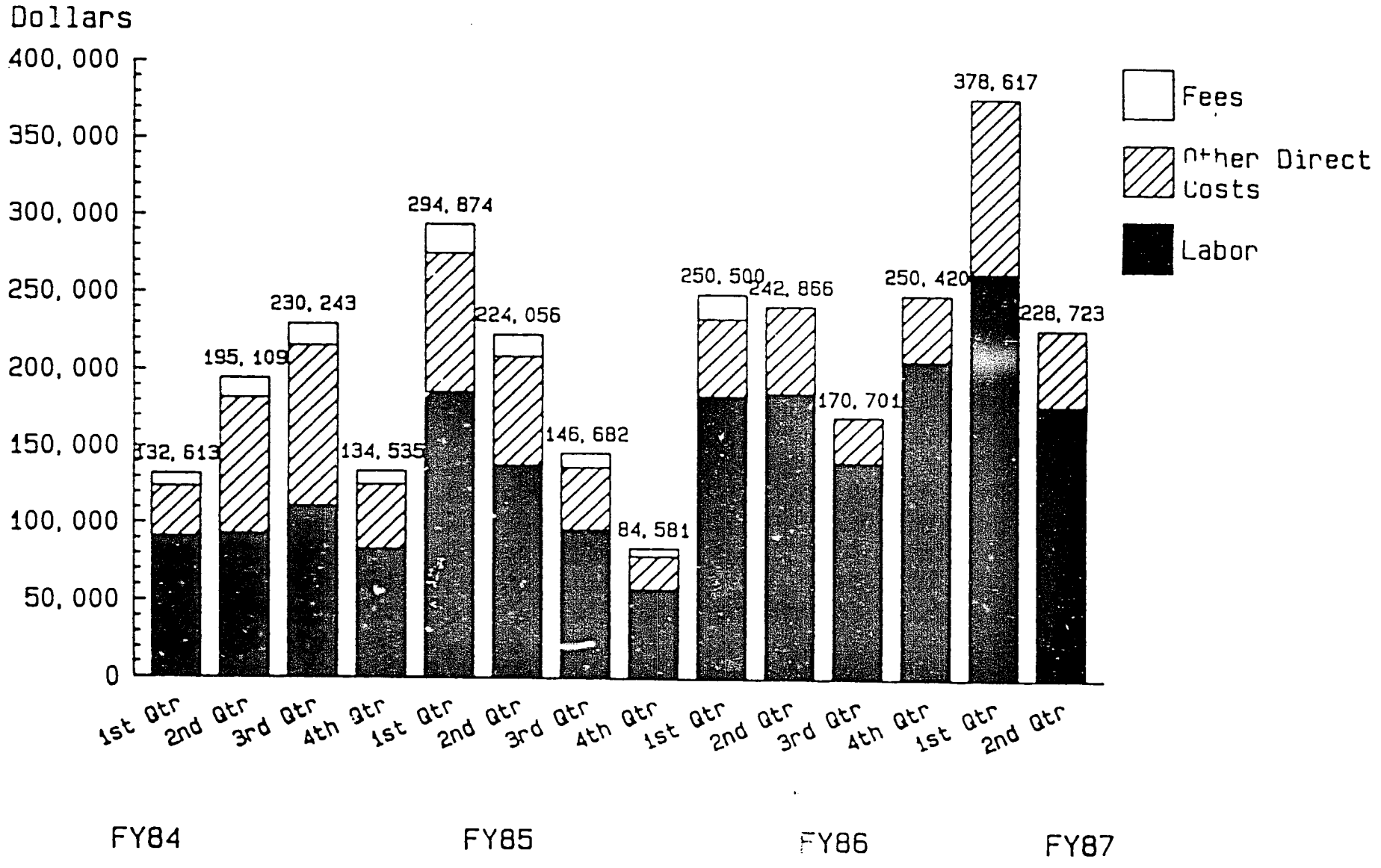
ECSP Expenditures by Quarter

	First year	
First quarter	(9/15/83-12/15/83)	$132,613
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)	134,537
Yearly total		**$692,502**
	Second year	
First quarter	(10/1/84-12/31/84)	$290,126
Second quarter	(1/2/85-3/31/85)	224,056
Third quarter	(4/1/85-6/30/85)	146,682
Fourth quarter	(7/1/85-9/30/85)	84,581
Yearly total		**$745,445**
	Third year	
First quarter	(10/1/85-12/31/85)	$250,503
Second quarter	(1/1/86-3/31/86)	242,866
Third quarter	(4/1/86-6/30/86)	170,701
Fourth quarter	(7/1/86-9/30/86)	250,420
Yearly total		**$914,490**
	Fourth year	
First quarter	(10/1/86-12/31/86)	$378,617
Second quarter[1]	(1/1/87-4/30/87)	$228,723

[1] This "quarter" covers four months, to cover all final activities under ECSP.

Exhibit 3

ECSP Quarterly Expenditures for Labor, Other Direct Costs, and Fees



APPENDIX B

EPPD BUDGET DETAILS

APPENDIX B

EPPD BUDGET DETAILS

January 5, 1988

OAK RIDGE NATIONAL LABORATORY
ENERGY POLICY DEVELOPMENT AND CONSERVATION PROJECT
FINANCIAL SUMMARY

1984	
Total Original OE core funding	$ 725,000
1985	
OE core funding	$1,500,000
Additional OE funding	65,846
Pakistan Coal Conference*	80,000
Rural Electrification in Bangladesh*	57,000
1985 Total Funding	$1,702,846
1986	
OE core funding	$ 800,000
Completion - Pakistan Coal Conference*	55,000
Weingart-India*	15,000
Travel costs - Madagascar*	14,000
Madagascar Pinewood Carbonization Project	50,000
Additional OE funding	35,169
Pakistan (assessment of markets for coal briquettes)*	330,000
India-BHEL*	316,000
Ecuador project evaluation*	19,213
1986 Total Funding	$1,634,382
1987	
Core Funding	$ 900,000
Sudan project evaluation*	50,387
Pakistan coal briquettes (extension)*	20,000
Additional OE money	60,000
Strategies to implement innovations in the power sector of developing countries	232,000
Energy project design for Africa*	100,000
Private sector roles	50,000
Fossil fuel combustion technology use	50,000
Environmental management	72,558
Technical assistance to Regional Office for Central America and Panama*	299,995
1987 Total Funding	$1,834,940

*Denotes Buy-Ins

Total Buy-Ins	$1,341,595
Total Central OE Funding	4,555,573
Grand Total	$5,897,168

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APPENDIX C

EVALUATION SCOPE OF WORK

APPENDIX C

SCOPE OF WORK

EVALUATION OF THE ENERGY POLICY DEVELOPMENT AND CONSERVATION (EPDAC) PROJECT

1. Activity to be Evaluated:

The project to be evaluated is the Energy Policy Development and Conservation (EPDAC) Project, 936-5728. This is a four year project initiated September 15, 1983, and scheduled to end July 31, 1987. The original life-of-project cost was $8 million.

In March 1987 the project was amended to extend the project five years and increase the life-of-project funding by $10 million. The present LOP is $18 million ($14 million SDA and $4 million ARDN), and the completion date is September 30, 1992.

2. Purpose of the Evaluation

The broad purpose of this evaluation is to review the conceptual and implementation aspects of EPDAC, and to recommend changes to improve the effectiveness of A.I.D. energy planning and conservation activities worldwide. As EPDAC activities will continue for another five years, it is critical that worthwhile initiatives taken during the first four years be implemented, that actual performance and lessons learned be examined, and that the evolving energy situation of A.I.D.-assisted countries be factored into EPDAC program planning.

3. Project Background

The goal of this project is to promote the economic growth and increased productivity of developing countries by providing energy and power at the lowest possible economic, financial and social cost. The purpose of this project is to provide technical assistance in energy policy development and conservation to developing countries so that they may effectively address energy problems. This is accomplished through analysis, institution building and policy development. Specifically, the project seeks to: 1) assist lesser developed country (LDC) governments to develop institutions, personnel and processes capable of effective energy policy-making; 2) provide assistance in designing and implementing policies, programs, projects and

investments needed to relieve chronic and severe energy and power problems, and minimize vulnerability to future uncertainties in energy prices and availability; and 3) help LDCs achieve measurable improvements in energy efficiency, reliability and national energy self-sufficiency.

Over the past several years, the EPDAC project has defined and implemented new energy strategies relevant to Agency roles and developing country realities of the 1980s. This project has provided technical assistance to target LDCs in such priority areas as power sector efficiency improvement; allocation of research and technology development investments; energy pricing strategies; energy systems for productive enterprises in rural areas and expanded private sector roles.

The two major categories of technical assistance provided under the project are, as the project title suggests, assistance in energy policy development and in the development of programs to promote efficient energy consumption and conservation. The two components are briefly described below:

(1) Energy Policy and Planning Development (EPPD)
This component is directed at analyzing the overall policy environment for energy investments and providing recommendations for improved decision making and policy reform.

(2) Energy Conservation Services Program (ECSP)
This component is designed to provide assistance in conservation, particularly through engineering analysis, energy audits, pre-investment feasibility studies, and investment promotion. This component addresses only those policy issues relevant to energy efficiency improvements.

The EPPD priority activities, designed to reflect A.I.D.'s objectives, include the following:

(1) Policy and institutional reform, with special attention to energy pricing;

(2) Strong private sector involvement in capital mobilization, resource development and management, technology innovation and commercialization;

(3) Improved energy investment decision-making, with special attention to least-cost power investment planning.

The EPPD emphasizes the policy and institutional environment, as well as the investment climate, affecting energy supply and

demand options. The EPPD explores and examines options for energy resource development, energy conversion technology and efficient energy utilization to the extent that they are relevant to improved investment decision-making, strategies for commercializing the results of research and development, and pricing reform.

The Energy Conservation Services Program (ECSP) provides a broad range of technical advisory services, training, and information dissemination activities to A.I.D.-assisted countries. ECSP's activities have included energy demand management, energy auditing training projects, cogeneration feasibility studies, and transportation energy conservation projects. Its primary activities are designed to achieve a large and immediate reduction in the amount of energy wasted in A.I.D.-assisted countries and to improve the efficiency of energy use. ECSP's primary strategy is to focus on high-payoff areas in countries that are likely to achieve large and immediate improvements in their energy efficiency, with the objective of accelerating economic development.

4. Statement of Work

The evaluation of the EPDAC project will be conducted between August and November 1987 to analyze achievements and shortcomings relative to original project expectations and the current international energy and economic situation. The evaluation will include interviews with participants, counterparts, and users of work products; examination of financial and administrative records; examinations of reports and publications; and consultation with appropriate A.I.D. officials in Washington and in the field. The contractor will address but not be limited to the following key questions:

(1) Have the country-level programs achieved useful results in terms of:

(a) Improving the national energy database?

(b) Strengthening national energy planning, policy-making and/or conservation-related institutions?

(c) Increasing the skills of LDC energy professionals in counterpart institutions?

(d) Helping to bring about policy innovations that contribute to the project's overall goal and purpose?

(e) Facilitating the analysis, planning and implementation

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of specific projects, programs and investments to increase energy supply and/or maximize efficiency of consumption?

(f) Providing leverage for investments in the country's energy sector, specially investments by private enterprise?

(g) Integrating national energy planning and policy development into the larger process of long-term economic development planning?

(2) Do host government officials view the program and its results in a positive light? How do they plan to sustain the program's achievements?

(3) Does the country's A.I.D. Mission have current or firmly committed future follow-on projects? How will it build on S&T/EY-funded activities? How important is it in the Mission's overall program?

(4) Did the project raise important issues, provide important lessons or produce significant new information that can be applied in other A.I.D.-assisted countries? If so, what are they? How can they best be transferred to other settings?

(5) Were conferences and other activities undertaken to ensure inter-country coordination, shared experiences and learning to provide meaningful opportunities for ideas generated in the one country to be tested and applied elsewhere? Were the efforts successful, in the participants' view? What concrete evidence is available to support the conclusions?

(6) Was the conservation technical services component of the project successful in terms of:

(a) Leveraging investments in energy efficiency by the private sector, financial institutions and governments?

(b) Stimulating changed operation/maintenance practices, retrofits, or energy audit/measurement/management programs?

(c) Publicizing opportunities for improved energy efficiency?

(d) Producing data on energy intensity of various processes, or conservation potential of various technologies, that can be used by energy consumers?

(e) Training LDC technicians and professionals in the techniques of energy management?

(f) Relating the technical services of the conservation contractor to the policy concerns (e.g., pricing as a stimulant to conservation) of the EPPD component?

(7) Were the activities undertaken within the project's research program useful in terms of:

(a) Guiding A.I.D.'s overall energy assistance program?

(b) Shedding light on key issues faced by energy policy-makers in A.I.D.-assisted countries?

(8) Was the in-house management mechanism, combined with ad hoc study contracting and use of a "mini-research advisory committee," found to be efficient, cost-effective and successful in ensuring useful study topics, high-quality researchers and significant research results?

Since EPDAC will continue for another 5 years, it is extremely important that the above questions be addressed, and that lessons learned be adequately documented. The EPDAC evaluation team must provide an empirical basis for its findings, and the contractor is expected to arrive at conclusions and make recommendations based on these findings.

The contractor should view this evaluation as a management assistance tool, similar to the process of arriving at a business plan in the private sector corporate world. The final report should be written with this perspective, as critical EPDAC management decisions must be made by A.I.D. over the next 5 years.

The contractor should recognize the importance of directly surveying the relevant A.I.D. missions and other appropriate in-country sources. This is necessary to determine their perceptions of program goals, to assess the quality of specific activities, to measure financial and economic benefits, and to identify lessons learned. As budgetary and time constraints will limit the number of countries to be visited, the contractor should identify the priority countries to be visited based on preliminary work in Washington with A.I.D. staff. A minimum of 2 separate geographical areas will be visited by the contractor, covering as many relevant countries in each region as possible. The balance of the survey will be accomplished by telephone, telex, or cable.

The output of the evaluation will be documented in a final report based on the activities of the team and an analysis of the information received. The final report prepared by the contractor will be management oriented, succinct, and in accord with the guidelines specified in Section 7 of this scope of work.

5. Methods and Procedures

Based on the evaluation questions to be answered, the maturity of the project, and its worldwide dimension, the contractor will be expected to conduct the early evaluation phase in Washington by reviewing appropriate documents and reports, and interviewing appropriate A.I.D. Office of Energy and Region staff. Based on this preliminary work, priority will be established for field visits in consultation with A.I.D. S&T/EY staff. A list of key contacts will also be prepared (both direct and indirect) from the countries chosen for more detailed evaluation activities. Field visits and telephone and telex surveys will proceed after all appropriate protocols have been observed. Information needs will be communicated to the appropriate A.I.D. Mission prior to any contractor travel, and an approved itinerary will be arranged by the Mission.

It is anticipated that the contractor will work on the normal five day work schedule for U.S.-based activities. For overseas tasks, the contractor will observe local customs including six day work weeks when that is the norm, and will be expected to work on U.S. holidays not observed in the host country.

The contractor will break the EPDAC into specific components that can be evaluated individually, with the results integrated for the final report. The following is a suggested outline for the breakdown.

I. Project Administration

A. Project planning
B. Project staffing
C. Expenditures/accounting
Financial reporting
Budgetary controls
D. Communications with A.I.D. and other contractors

II. Project Components

A. Program planning
1. Execution
Focus of projects on important activities
Articulation of plans

Linkage with other planning efforts
Broader A.I.D. missions
Other A.I.D. efforts
Other donor efforts

2. Quality of Design Analysis for Specific Components

Philippines TTEM
Organization and Planning of the Pakistan National Energy Conservation Center
Thailand: Mobilization Plan for Energy Conservation Center
Egypt Energy Conservation and Efficiency Project
Energy Demand Management in Morocco

B. Training

1. Quality of Training Courses

Quality of Design of Specific Components

Sri Lanka Energy Demand Management & Conservation
Sri Lanka Phase II: Energy Auditing
Ecuador industrial energy conservation training
Costa Rica transportation

Overall Quality of Implementation

Building capacity to conduct energy audits
Build capacity to plan energy conservation activities
Build capacity to manage projects

2. Quality of Training Manuals

Industrial Energy Auditing Manual
Energy Demand Management and Conservation Manual

C. Quality of Implementation for Specific Projects

1. Quality of Implementation for Specific Projects

Pakistan
Thailand
Dominican Republic
India

2. Overall Quality of Implementation

3. Mission perceptions

D. Energy Conservation Potential Analysis

1. Quality of Implementation for Specific Projects

Haiti: Energy efficiency in the sugar industry
Thailand: Energy conservation goals for industry
Sri Lanka: Audit reports and feasibility studies in a tire plant and textile mill
Costa Rica: Transportation energy conservation
Dominican Republic transportation energy conservation

2. Overall Quality of Implementation

3. Mission Perceptions

E. Policy Analysis

1. Quality of Implementation for Specific Projects

Database development for A.I.D. energy efficiency projects
ECPIE: An Energy Conservation Project Investment Evaluation MODEL
Financing Energy Conservation in Developing Countries
Cogeneration in Developing Countries
Institutional Barriers to Private Sector Investment in Energy Conservation
Road Transportation Energy Conservation

2. Overall Quality of Implementation

3. S&T/EY and Mission Perceptions

F. Program Evaluations

1. Quality of Implementation for Specific Projects

Ecuador, Peru: Industrial energy conservation program assistance
IIE/TVA Conventional Energy Training Project
Dominican Republic: Industrial Energy Conservation Program
ROCAP: Regional Industrial Energy Efficiency Project
Djibouti Energy Initiatives Project

2. Overall Quality of Implementation

3. S&T/EY and Mission Perceptions

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G. Information Dissemination

1. Quality of specific activities

Workshops and conferences

Latin America/Caribbean Regional Energy Conservation Workshop
Asia/Near East Workshop on Energy Conservation and Private Power Generation

Publications

Update
Project reports

Enhancement of networking

2. Overall Quality of Information Dissemination

3. S&T/EY and mission perceptions

The same format will be used to evaluate the accomplishments of the Energy Planning and Policy Development Component of EPDAC. These accomplishments will include, but not be limited to the following:

1. Institution-building for National Energy Planning:

- Developed, conducted, and completed collaborative energy planning projects in Sudan, Morocco, Liberia, and Haiti.

- Produced a national energy strategy for Liberia.

- Assessed lessons from national energy planning experiences at an international conference in Reston, VA, in 1983, involving representatives of 25 developing countries, plus officials from multilateral donors and U.S. experts.

2. Assistance to A.I.D. Missions

- Project development assistance to A.I.D. missions in Pakistan, Madagascar, and India.

- Project evaluation assistance (in most cases supported by mission buy-ins) to Morocco, Ecuador, Philippines, Bangladesh, Sudan, and Guatemala.

3. Assisting A.I.D.'s Office of Energy with energy planning-related functions:

- Background white papers on energy problems in developing countries in the 1980's, to help clarify program priorities.

- Assistance in developing program plan for S&T/EY (1985).

- Improvement of information support for program planning and implementation.

- Development of improved project management tools.

- Technical advice on energy planning and policy issues, such as implications of lower world oil prices for developing countries, and energy for agriculture.

4. Research and analysis on priority energy policy issues for A.I.D. countries:

- A continuing energy policy research program which has produced three sets of projects and reports by experts from private sector firms and universities, maintaining links between A.I.D. and the research community.

- Improved household fuel alternatives for developing countries.

- Investigation of clean-burning coal briquettes for wood-scarce countries with a coal resource.

- Development of a standardized assessment approach.

- Completion of a prototype integrated assessment of Haiti, which has generated U.S. private sector interest.

- Assessment of household-fuels markets in Pakistan.

- Evaluation of health risks from coal briquettes.

- In collaboration with the World Bank, assessments of household fuel alternatives in Madagascar and Zaire. Pre-investment analysis of a pinewood carbonization option in Madagascar. Capital financing will come from the USAID Mission in Madagascar an World Bank.

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5. Innovative approaches to power system planning, reducing capital supply requirements:

- Design support for a new project in USAID/New Delhi to accelerate the pace of commercialization of energy research and development.

6. Energy price reform in developing countries:

- White paper on price reform issues and options

7. Policy and Institutional Aspects of Coal Resource Development:

- First national coal conference in Pakistan.

- Institution-building assistance for coal R&D in India.

The contractor should evaluate the overall program, and the following is a breakdown of the minimum points to be covered by the contractor:

1. Quality of Effort

   o Technical adequacy
   o Managerial adequacy
   o Human resources development
   o Development of innovative ideas and projects

2. Perceptions of Cooperating Organizations

   o Perceptions of A.I.D. bureaus
   o A.I.D. missions
   o LDC governments
   o LDC private sector
   o US private sector

3. Likely or Actual Impacts of Projects

   o Actual energy savings
   o In-country capacity to carry on activities
   o Supporting private sector development

4. Problems and obstacles encountered

   o Technical
   o Institutional
   o Procedural
   o Policy

6. Evaluation Team Composition

This evaluation of the EPDAC activities will require a team of individuals with appropriate backgrounds in at least the following:

- o Management (including policy guidelines, operational control and evaluative procedures)
- o Financial Feasibility Analysis
- o Economic Feasibility Analysis
- o Energy Resource Analysis
- o Energy Pricing Policy
- o Energy Planning
- o Energy Conservation
- o Institutional Analysis
- o Energy Engineering

It is anticipated that a team of 3 multidisciplinary individuals will be provided by the contractor to cover the above range of skills. Each individual will have appropriate in-country LDC experience and, while not mandatory, proficiency in Spanish or French will be useful, although the official evaluation language will be English.

It is critical that the contractor provide staff experienced in dealing with LDC government officials and private sector business leaders. The individuals must be well versed in LDC social and cultural sensitivities in order to achieve an objective and un-biased evaluation, and must obviously be excellent oral and written communicators. The individuals must be acceptable to the A.I.D. project manager.

7. Reporting Requirements

The output of the evaluation will be a final evaluation report. The first draft for review will be delivered to A.I.D. within 90 days of the signing of the contract, and the final version will be delivered within 120 days. The required format for the evaluation report is as follows:

APPENDIX D

FIELD REPORT EGYPT--D. YOUNGER

APPENDIX D

FIELD REPORT EGYPT--D. YOUNGER

EPDAC Activities in Egypt

The USAID Mission in Cairo manages a portfolio of energy projects which has provided more than $1 billion of capital goods, technical assistance and training to the Government of Egypt since the restoration of U.S.-Egyptian economic ties in 1978. This assistance has principally been for power generation systems. At present, it represents the largest energy program in the USAID-assisted countries and has supported activities in: electric utility management; power generation, transmission and distribution; energy resource exploration and evaluation; energy planning; energy manpower development and training; and renewable energy technology demonstrations. As the largest USAID Mission which is also fully delegated by AID/Washington for project approval, the Mission's technical staff includes many economists, engineers and scientists, several of whom have outstanding qualifications in the development and management of energy projects.

Despite its large energy portfolio, until recently USAID/Cairo had not utilized the EPDAC project to meet any of its project design, implementation or evaluation needs. However, beginning in the summer of 1986, the EPDAC energy conservation contractor Hagler, Bailly & Company, Inc. was requested to participate in the design of a new energy conservation project by USAID/Cairo. The project, a $49 million eight year effort, is one of five subcomponents of a $132 million Science and Technology for Development umbrella project, administered by USAID/Cairo's Science and Technology Office in the Associate Directorate for Human Resources and Development Cooperation. The Science and Technology Office also manages the Energy Policy and Planning Project; the Renewable Energy Field Testing Project; the Minerals, Petroleum and Groundwater Assessment Project and is also designing and will administer a separate sub-component project on Energy Manpower Training and Development as a part of the Science and Technology for Development umbrella project. The only other offices with energy-related projects or activities in USAID/Cairo are the Associate Directorate for Development Resources' Office of Urban Administration and Development which manages power generation projects and the Associate Directorate for Program, Policy and Planning's Economic and Program Offices which have prepared internal Mission policy papers on Egypt's energy situation as a part of the continuing process of policy dialogue with the GOE.

Interviews were held during the week of December 6 in USAID/Cairo, with Mr. Lawrence Ervin, Chief of the Science and Technology Office and Dr. Sherif Arif, Program Officer, concerning EPDAC activities in Egypt. Interviews were also held with Mr. Charles Richter, Economist with the Economics Office and Ms. Vivikka Molldrem of the Program Office of the Associate Directorate for Program, Policy and Planning and Mr. John Hunt, Engineer with the Office of Urban Administration and Development

of the Associate Directorate for Development Resources who manage Mission energy policy dialogue issues, energy program issues, and power generation projects respectively. In addition, a review of the draft energy conservation project documents was made and several question and answer sessions were held in Cairo with Hagler, Bailly & Company, Inc. employees, Mr. John W. Stafurik, Ms. Suzanne Leonard and Mr. Robert Gordon. Since the energy conservation project is still in the final stages of design, it was deemed inappropriate to meet with the two principal Egyptian implementing organizations: the Ministry of Industry's Tabbin Institute for Metallurgical Studies (TIMS) and the Development Research and Technological Planning Center (DRTPC) of Cairo University. However, the evaluator is quite familiar with DRTPC and generally knowledgeable of TIMS from previous work in Egypt.

Energy Conservation and Efficiency Project (ECEP)

The impetus for ECEP derives from both GOE and USAID interest in improving the energy efficiency of Egypt's industrial processes and practices. There is a recognition by GOE that effective energy conservation is needed to free up more of Egypt's oil production for export to reduce the costs of providing new electricity supplies, and to help cushion the eventual transition from a highly subsidized energy pricing regime to one more in line with world prices. Although the Ministry of Industry has been charged by the GOE with energy conservation responsibility for Egyptian industry, its capabilities in this field are in the formulative stage.

USAID's interest in a project to support energy conservation is a natural outgrowth of the Mission's other activities in the energy sector and is also consistent with the Mission's Science and Technology Strategy. Since 1982, USAID has assisted the Organization for Energy Planning (OEP) within the Ministry of Petroleum and Mineral Wealth in developing its energy planning and analysis capabilities. Although OEP has completed several industrial energy audits and plans to build an analytical capability to understand national energy supply and demand patterns, it is a newly staffed organization, and has suffered from bureaucratic rivalries and changes in leadership. Progress is now being made on collecting and assembling accurate information on national energy balances and the scope for industrial energy conservation in Egypt with assistance from a new technical assistance team including the MIT Energy Laboratory.

The chronology of the involvement of Hagler, Bailly & Company, Inc. (HBC) in the design of the ECEP project is as follows. The Mission, prepared Science and Technology Strategy approved in March 1985 called for a focus on productivity including an energy conservation activity to improve industrial efficiency. An umbrella project paper for the Science and Technology for Development project was prepared by the Mission and approved in

June 1986. At the Mission's request, using a buy-in to the EPDAC project, HBC developed an independent assessment of industrial energy conservation potential in conjunction with the Mission between October and December 1986. While the Mission originally developed the concept for ECEP, a full-fledged energy assessment was required to verify the basic project strategy. HBC also used the results of the assessment to assist the Mission in the preparation of the energy section of its CDSS and Action Plan between January and February 1987. HBC developed the initial drafts of the ECEP design in conjunction with the Mission between February and April 1987. As a result of the IMF Readjustment Program adopted in May 1987 HBC returned to Egypt in December 1987 to make modifications in the economic and financial assumptions supporting the project. The IMF plan unified exchange rates, set import curbs and required electricity tariff increases. These economic adjustments required refinements of the project paper to make it consistent with these important changes. At the request of the Science and Technology Office, HBC also developed a paper on power plant rehabilitation issues in Egypt.

The assessment developed by HBC in the Fall of 1986 was a major undertaking. As a result of the lack of available, accurate and reliable data on the energy sector generally and energy conservation opportunities specifically, HBC had to assemble its provisional energy balance for Egypt based on its own data collection efforts with various ministries. HBC performed cross-checks on the data using all available sources to evaluate their reliability before utilizing it in the formulation of the energy conservation project strategy and component activities. In addition, between October 1986 and March 1987 HBC conducted nearly 50 interviews with industrial energy users including 44 site visits and plant walk-throughs to make initial assessments of energy conservation needs and requirements. They also interviewed local architect/engineering firms, government institutions, trade associations and financial institutions. Contacts were also made with donor organizations and local universities. In all, 130 interviews were carried out over a six month period.

As a result of this intensive research and analysis phase, HBC recommended that the Mission's energy conservation project focus its initial project activities in three key industrial subsectors estimated to account for 53% of industrial energy demand in Egypt, namely the chemical, metallurgical and cement industries. It also estimated that approximately 45% of total commercial energy consumption is accounted for by industrial energy use, the largest sectoral consumer, and that on average Egyptian industrial plants consume between 30-40% more energy per unit of product than similar plants operating internationally.

The HBC findings verified and supported the project strategy designed by the Mission which focuses on energy demand management which can ultimately have the benefit of freeing up through

relatively easily obtained industrial energy savings, additional units of energy in a cheaper and more rapid fashion than through other supply alternatives. In concert with the Mission's Science and Technology Office, HBC developed a set of project activities that fully recognizes such Egypt-specific issues as: the need to balance project activities between the public and private sectors; the need to provide adequate financial incentives to encourage private firms to participate; and the importance of focusing on direct transfer of needed technology as opposed to funding research and demonstration activities.

The strategic considerations used to select proposed project activities included: the size of potential energy savings; the economic attractiveness of the application; replication potential; and use of proven technologies available from U.S. suppliers. The project activities selected fall into two basic areas: energy technology applications and an investment promotion program. HBC identified ten generic technologies (usually consisting of more than a single piece of equipment) which appear to be most directly applicable to industrial energy conservation in Egypt. These include: electronic energy management systems; automated combustion controls; waste heat recovery systems; cogeneration systems; advanced insulation materials; high efficiency electric motors; solid fuel-fired combustors; power factor improvement systems; and high-efficiency lighting systems. In addition to identifying technologies and selecting suitable sites for their demonstration in industrial plants, the project will provide support in implementing conservation technology demonstrations and in monitoring their economic and technical performance.

In the area of technology investment promotion, the project design includes training elements to support institutional capacity development in a variety of Egyptian institutions to supply advanced energy conservation technology, as well as support for developing financial and technical expertise in managing energy conservation projects to actively promote and disseminate the project's energy conservation achievements through seminars, workshops, publications and other media. It will also provide for analysis of the impacts of GOE policies and regulations on energy conservation issues and project implementation.

In recognition of the fundamental differences between Egypt's public sector industrial activities and its still rather limited private sector industries, the Mission and HBC designed a separate set of implementation mechanisms for the two sectors. While there can be legitimate differences over the likely impact of an energy conservation project in Egypt given its highly subsidized energy pricing regime, it seems clear that HBC has designed a well-crafted energy conservation project which is fully consistent with the unique conditions in Egypt's basic industrial economy.

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APPENDIX E

FIELD REPORT PAKISTAN--R. CHRONOWSKI

APPENDIX E
FIELD REPORT PAKISTAN--R. CHRONOWSKI

Pakistan, Field Visit
EPDAC Evaluation

1.0 Introduction

This appendix documents the in-country evaluation activities for the EPDAC project activities in Pakistan. Activities have occurred in both ECSP and EPPD project components. ECSP activities in Pakistan continue on a Mission-funded basis as a follow-up to centrally funded project definition activities. EPPD activities in Pakistan are essentially dormant with only some final report work on an input to a coal briquetting project currently underway in Pakistan. The evaluation visit took place between January 12 and January 24, 1988. This appendix serves to provide input to and background to the overall evaluation.

2.0 In-Country Findings

Interviews took place in Islamabad during the period, January 13 through January 21, 1988. The Islamabad interviews were supplemented by telephone interviews with people in Karachi. Table 1 lists the people interviewed in Pakistan. Overall, the S&T/EY support through EPDAC for ORNL and the EPPD need to be promoted in Pakistan (or the Pakistan Mission and GOP counterparts need to be educated) as to how the EPPD and EPDAC can greatly increase the effectiveness and long-term benefits of their multiple, but fragmented, energy activities. Pakistan is now, and will remain, fertile ground for S&T/EY services through EPDAC.

The mission energy program and activities are viewed as useful and contributing toward progress. The Pakistan mission has a very large budget and a significant number of staff so as to develop and manage their own projects. In this perspective, the mission tends to want to closely control all activities and the information flow about them. EPDAC has been utilized in Pakistan to assist in the design and start-up of several major projects including:

- an energy planning support project (EPPD);
- an energy conservation institution building and implementation project (ECSP);

- a coal briquetting project (EPPD); and,
- a private power project (ECSP).

Table 1

People Interviewed in Pakistan

	Name	Affiliation
1.	James Bever	US AID
2.	Anjum Ahmad	"
3.	Syed Raza Husain	"
4.	Masood A. Malik	"
5.	Terence T. D'Souza	"
6.	Charles Bliss	"
7.	Vaqar Zakaria	Hagler, Bailly
8.	John Armstrong	"
9.	Njib Murtaza	"
10.	Dr. Sabir Mahmood	ENERCON
11.	James D. Westfield	Mathtech
12.	Enver Masud	Mathtech/E/DI
13.	Majahid Iqbal	Mathtech
14.	Ashfaq Mahmud	Energy Wing/Planning Ministry
15.	Akram Kahn	Ministry of Water and Power
16.	Najama Anwar Raja	Rural Regional Commissioner
17.	Major G.R. Shaukat	Formerly Office of Prime Minister
18.	Zulfiqar Haider Raja	National TV Company
19.	Ahmad Ghamarian	Institute for International Education
20.	Steven Ebbin	Institute for International Education
21.	Ghulami Sikander	Investment Promotion Services

As a support contractor, Hagler, Bailly received a better performance rating than ORNL, although there was insufficient knowledge present concerning what ORNL can do to support the mission and the views were skewed by this lack. The GOP counterparts were totally unaware of the ORNL availability

through the EPPD. The Chief of the Energy Wing of the Planning Ministry was anxious to explore EPPD support for the AID planning project with the AID on-site contractors, Mathtech and E/DI, once the purpose of the EPPD and resources available were described to him.

2.1 EPPD and ORNL

The experience of using the EPPD in Pakistan was described as essentially inconsistent. There was good experience with arranging for and carrying out project design activities for the energy planning project now implemented as a Mission-funded contract, and not-so-good experience (mixed comments) on support of the coal briquetting activity. Administratively, the comments were basically the same, excellent for the planning exercise, but never consummated for a transportation conservation activity where the services of David Greene of ORNL were requested. There was one over-riding perception in Pakistan concerning ORNL and that was one of their being too independent and having to lead a project, instead of supporting it. This came mainly from people exposed to the ORNL coal briquetting work, but it now effects consideration of ORNL for any other support. Another comment concerning ORNL was the difficulty in getting the final report on the coal briquetting work, although when pressed, mission staff admitted sitting on the draft report for a "long" time before returning comments.

The future potential for EPPD support services in Pakistan is not as good as it should be. The mission is pushing for new projects in private power production and renewable energy (with a household energy component). While contractors will be solicited and selected by the mission, there are definite areas in these projects, and in the existing planning and conservation projects, that ORNL could contribute an objective viewpoint to, and ORNL's independence would be a credibility plus. The problem is that the EPPD resources and access mechanism are not well enough known in the mission, nor the GOP for anything to happen. A little promotion in Pakistan could yield substantial requests for assistance.

2.2 ECSP and Hagler, Bailly

The ECSP, S&T/EY, and Hagler, Bailly have achieved a significant success in Pakistan. The Mission defined a major conservation institution building and implementation project in Pakistan. The Mission then held a competitive bid for a conservation contractor and a mission-funded project was

initiated in 1986. Since then, contractor activities have assisted the GOP in setting up the institution, a parastatal called ENERCON, which is supported partially by AID, partially by the GOP and has high level backing with the Prime Minister acting as the Chief of the Conservation Advisory Committee. Training activities for such people as boiler operators, boiler controls tune-ups, and other such no cost/low cost to industry activities have drawn industry into the conservation arena in a big way. As many as 8000 to 9000 industry people have already been exposed to training courses and ENERCON is now starting to charge for attendance in training sessions with industry favorably responding. Testimonials are starting to arrive such as one-third real energy savings in a textile mill, and of half in a tile factory.

The impressive thing about ENERCON is that the Pakistani Nationals including the Chief are from the private sector, and are adopting an aggressive private sector business approach that should guarantee lasting results with or without further AID assistance.

Many valuable lessons have been and are being learned in Pakistan that could have direct impact on similar projects in other countries:

- The need for establishing large data bases through surveys, audits, and feasibility studies on the front end of a project does not seem to be important. Low cost/no cost modifications and training programs have more or less generic application, and can be used as front end mechanisms to get a results-oriented conservation initiative off to a running start.

- Having private sector experience people managing the institution helps industry associate quickly with the service being offered.

- If savings resulting from early efforts are experienced, word-of-mouth advertising can result in sufficient demand for services that can leverage reasonable charges for services such as training, boiler tune-ups, etc.

- Senior political involvement (in Pakistan at the Prime Minister Level!) is essential in imparting a seriousness of implementation intent to the industrial community.

- Actual energy savings do not meet the theoretical potential and early promotional efforts should be careful to not arouse unattainable expectations, and more recent projections are quite close to results achieved.

- For AID to fully benefit from the lessons learned, a formal information feedback loop is required for both S&T/EY and Mission-funded ECSP activities. Hagler, Bailly has no lessons learned feedback task in their Washington ECSP contract with S&T/EY, and in the Mission funded contract, there are no provisions for senior staff level travel either from Washington to Pakistan or vice versa. This was not a contractual task issue and an information flow difficulty has resulted. ECSP is a success in Pakistan. The whole world should know how and why this happened.

- Media attention can be utilized to promote project as long as "high level" political involvement is shown. Television, radio, and newspapers all will provide coverage of activities especially when the Prime Minister makes an "on-site" contribution, even if the contribution is only moral support.

Hagler, Bailly was complemented by both AID Pakistani staff and GOP staff for use of local contractors and willingness to freely transfer technical expertise and knowledge. The project design team was complemented as being superb, however, the ENERCON chief was diplomatic concerning the Mission-funded contract staffing. Essentially, he suggested that the Hagler, Bailly expat staff were competent and good workers, but that the staff capabilities of the Pakistani nationals now hired is of a sufficient level as to use both the expats and nationals as ENERCON staff and not in a true counterpart mode. While this is not a problem, it was not what was expected after the excellence of the project design effort. This condition was also observed in the energy planning support area where AID through its contractor was furnishing computers and models, but littl true counterpart or teaching relationships. The problem is not unique to Hagler, Bailly.

2.3 Other Observations and/or Issues

The EPDAC project is not recognized as such in Pakistan. The ECSP and EPPD components are known and to varying extents utilized. The Mission is further fragmenting relevant project areas by competitively seeking additional contractors to support Renewable Energy and Private Power Production activities, each

with a separate AID Project Manager. There did not seem to be the integrative thinking in the mission staff that looked at how all these separate initiatives fit together and no conception of how EPDAC could assist in dealing with such integrative issues in sensitive but related areas. The GOP energy planning and implementation activities appear to be fragmented while the AID mission support seems to be following in the same direction. There is a challenge here for S&T/EY to get the message out that EPDAC is ideally suited for adding the necessary cohesiveness for multiple major, but parallel activities impact. It would appear that missions with multiple major energy initiatives and contractors operating in a complex country environment need the EPDAC services badly, even though they can't recognize it.

It was reported by John Armstrong of Hagler, Bailly Pakistan that 3 of the 5 Hagler, Bailly expat personnel were taken from the S&T/EY ECSP services group. When these people return to Washington, they will bring vast and important experiences, but for now their S&T/EY support services are missed.

There is still plenty of work for ECSP and EPPD in Pakistan plus the need to provide services to the Mission and GOP from an EPDAC perspective. There is a major thrust going on in the power sector with billions of dollars to be invested. There are many players in this activity including major development banks and the aid agencies from the major aid countries. No cross cutting activities were visible such as will be required to optimize the investments in the Pakistani context. There is a heavy push to build thousands of megawatts of oil-fired capacity under the "private sector window", however, the possible future implications of this do not appear to have been seriously studied. Energy pricing issues abound for not only petroleum products, but natural gas (below marginal cost now), electricity, coal, etc. In the conservation sector, there has been nothing substantial done so far on buildings where 42% of the electricity is used. ENERCON plans to build its own "energy efficient" building to demonstrate what could be done and to develop standards and legislation to result in saving activities. Assistance beyond the current Mission Contract will be required to accomplish what is needed.

The private sector generally looks upon AID's efforts favorably because of the private sector focus of AID. The context of doing business in Pakistan is difficult and achievement of expectations must be tempered by this fact to be realistic. EPDAC could be used to analyze the potential for implementation success within the specific Pakistani social context, especially the private sector/public sector interface.

APPENDIX F

FIELD REPORT LAC--R. LeGASSIE

APPENDIX F

FIELD REPORT LAC--R. LeGASSIE

Costa Rica, Dominican Republic and Guatemala

1.0 INTRODUCTION

This Appendix presents the results of in-country evaluations of activities of Hagler, Bailly and Company (HBC), and Oak Ridge National Laboratory (ORNL) under the Energy Policy Development and Conservation Project (EPDAC). The activities evaluated here for the subject countries were centrally funded in whole or in part by the Office of Energy of the U.S. Agency for International Development (AID). The interviews and evaluations reported in this Appendix were conducted in Costa Rica, The Dominican Republic, and Guatemala during the period of January 11 through January 20, 1988, by Roger LeGassie of Technology & Management Services, Inc. (TMS). These findings serve as one input to the overall evaluation being conducted by I.T. Power, Inc., and have been integrated with the other aspects of the review in order to develop the final judgments and recommendations presented in the main body of the report.

This Appendix is organized to present the information on the interviews and discussions in each of the three countries in chronological order as they occurred. Overall views of the evaluator and the key recurring themes of the interviews are summarized in the final section of each individual country presentation.

2.0 COSTA RICA

2.1 Introduction

Interviews in San Jose, Costa Rica, took place during the period of January 11 through January 13, 1988. Table 1 lists the interview subjects and their affiliations. The discussion topics covered:

- specific experience with the activities of HBC and ORNL as a result of in-country activities of these entities, and additional views obtained as a result of access to reports and presentations prepared for others; and

Table 1

INTERVIEW SUBJECTS IN COSTA RICA

	Name	Affiliation
1.	Heriberto Rodriquez	USAID
2.	Ana Lorena Leon	Ministerio de Energia Direccion Sectorial de Energia (DSE) Coordinator, Area de Desarrollo
3.	Antony Araya Jacome	DSE, Engineer
4.	Ileana Gonzalez	Ministerio de Transportes (MOPT), Director
5.	Rodrigo Munguia	MOPT, Instructor
6.	Jeraldo Monge	MOPT, Engineer
7.	Jorge Blanco Roldan	DSE, Director
8.	William Morales	Empresa Guadalupe (Bus Company Cooperative) (EG) Owner of company
9.	Jorge Arturo Castro	EG, Bus Owner
10.	Franklin Montero	EG, Mechanic
11.	Jorge Gonzalez	EG, Superintendent
12.	Edgar Castro Diaz	Coopetico (Taxi Cooperative) Deputy Manager

- future needs in energy assistance, based on perceptions of major energy and national development issues and priorities.

HBC activities involving Costa Rica were of five types:

- evaluation of projects planned and managed by others (The Regional Industrial Energy Efficiency Project (RIEEP) under the direction of the Central American Technical and Industrial Research Institute (ICAITI) and the AID Regional Office of Central America and Panama (ROCAP) which included activity in Costa Rica, Guatemala, Honduras, El Salvador, and Panama);

- Regional Conference support (The Latin American and Caribbean Regional Energy Conservation Seminar of January 14-17, 1985);

- diagnostic studies (needs and approaches in: (1) specific energy sectors, e.g., transportation, electric utility and in: (2) specific energy activities, e.g., public transportation systems, private power, cogeneration);

- assistance to AID-Washington in identification of potential <u>specific</u> new demonstration projects (as compared to <u>general</u> views on desirability of projects); and

- planning and conduct of a Demonstrat on Program (in transportation).

ORNL activities involving Costa Rica were limited to support of HBC activities in transportation energy and included participation in both the diagnostic and demonstration phases.

2.2 Overall Views of HBC

There was unanimity of view at the in-country governmental level (both USAID-Costa Rica and DSE) with respect to the following characterizations of HBC.

Strengths: good language and teaching skills; better than most at diagnosis of problems and ability to work with in-country counterparts; acceptable both as an AID support service contractor and as an independent entrepreneurial company seeking direct support for in-country activities; applauded for willingness to use local companies as subcontractors.

Weaknesses: typical methodology of short visits followed by long absences resulted in insufficiently detailed diagnosis, recommendations for follow-up and implementation of ideas which are too general and, in some cases, impractical for application; poor in analysis of social implications, energy policy implementations, and follow-up.

As amplification of the above summary comments, AID-Costa Rica has had several bad experiences with centrally funded contractors in the areas of industrial energy efficiency and wood gasification which did not involve HBC. By contrast, the overall experience with HBC (despite the identified weakness) has been positive and leads to a willingness to use their services in the future.

With respect to the five types of activities noted in Section 2.1 above:

- Most of the HBC Evaluation Recommendations for RIEEP which applied to Costa Rica were believed to be sound and implemented to the degree possible.

- The Regional Conference was particularly well done and the Conference Findings (as reviewed independently by TMS) are significant and sensible.

- The Diagnostic Studies are well done, as far as they go, but are the primary topics of concern with respect to the need for greater emphasis on detail, practicality, and the capability to lead to effective implementation planning.

- HBC attempts, at the request of AID-Washington, to develop specific new demonstration projects based on prior HBC in-country work (HBC Activity Area 183) were not successful.

- The Transportation Demonstration in Costa Rica is discussed in more detail in Section 2.3 below. In summary, it showed many deficiencies in planning and accomplishment (relative to the potential importance of the topic area and what might have been achieved), and yet is seen on an overall basis to have been a positive experience with a residuum of value which continues to motivate in-country attempts at follow-up.

2.3 Overall Views of ORNL/National Laboratories

The Costa Rican view of ORNL is quite limited, and is primarily based on the activities of a single individual who worked in the country in connection with the HBC Transportation Demonstration for only a few days.

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ORNL is viewed as the possible provider of very specific and narrow technical skills, hampered by lack of both language fluency and experience in developing country energy problems, somewhat academic, and not sensitive to relationship needs and follow-up responsibilities.

There was complete lack of familiarity with ORNL energy policy products.

The DOE national laboratory capability was best known in Costa Rica through the more visible activities of personnel from Los Alamos National Laboratory (which are not associated with the AID EPDAC Project activity). These personnel are seen as extremely knowledgable, but highly academic and uncontrollable in the field, and prone to excessive amounts of travel and numbers of personnel participating in in-country activities. Argonne and Brookhaven National Laboratories were known by name only, with no specific views advanced with respect to their capabilities or characteristics.

A discussion was held with both AID-Costa Rica and DSE on the possibility of ORNL (as a centrally funded AID-Washington contractor) providing the future services of summarizing energy policy and implementation studies of possible relevance to Costa Rican (and regional) needs in a Spanish bimonthly report. The reaction to this suggestion was neutral to moderately positive, reflecting some obvious uncertainty with respect to the capability at ORNL to understand needs in Costa Rica without having spent more time in the region and country.

2.4 Transportation Demonstration

This demonstration was carried out with the assistance of DSE and Costa Rican private sector bus (Empresa Guadalupe) and taxi (Coopetico) cooperatives. While there were various ancillary activities (e.g., extensive public awareness campaigns), the primary purpose was to determine and demonstrate the ability to achieve significant reductions in energy consumption in the transportation sector through improved driving techniques (following driver training), incentive programs, use of radial tires, and improved maintenance.

The demonstration was preceded by sectoral diagnostic studies specific to Costa Rica (HBC Activity 161), which include the development of non-country-specific transportation conservation strategies, and was followed by a final report on the demonstration (HBC Activity 178), and ongoing attempts of AID-Costa Rica and DSE to capitalize on the results of the demonstration. Hence, it offers unique insights on HBC involvement in a complete sequence of events from concept development through initial implementation steps.

All of the entities in Costa Rica interviewed for this evaluation, both governmental and private sector, share the following convictions:

- the subject matter is important, the potential for savings is significant, and the demonstration was convincing with respect to the existence of future benefits to be achieved; however,

- the planning for the demonstration did not give adequate consideration to its complexity; the time required to put it in place and conduct it properly; the need to adapt to local realities in the transition from diagnostic theory to actual in-country conditions (e.g., radial tires of the proposed type are not manufactured in Costa Rica, had to be imported from Japan, and were ultimately shown to have no statistically significant value); and the importance of building in elements conducive to subsequent follow-up and post-demonstration implementation steps; and

- additional assistance from AID-Washington in helping AID-Costa Rica and DSE pursue energy saving objectives in this sector are needed and would be welcomed.

Two specific points about the quantitative aspects of the demonstration are worthy of specific note:

- While specific quantitative findings were achieved (e.g., driver training reduced taxi fuel consumption by 15%), the HBC final report notes that the <u>reasons</u> for a number of the findings (e.g., comparative results in the bus fleet as compared to the taxi fleet) are <u>not understood</u>.

- The DSE representatives cannot reproduce the results of the ORNL statistical analysis from the same shared set of raw data, and have not been successful in obtaining resolution of this issue.

Both of the above problems are clearly impediments to effective utilization of the demonstration results by DSE; and are likely the result of the limited time and budget allocated by HBC and AID-Washington to this endeavor.

With the passage of time, some of the instrumentation available to the project is no longer operable, and the trained drivers at the bus cooperative are no longer there. Nevertheless, the bus cooperative has instituted additional preventative maintenance activities in response to the demonstration results. Attempts are being made to introduce driver training for energy efficiency into the mandatory training courses for driver safety. The auto mechanic interviewed (who participated personally in the demonstration) also asserted that 50% of the maintenance problems experienced by the bus cooperative were directly attributable to poor driving habits. All auto parts entail national import costs which are in addition to those incurred by the transportation fuels to be saved by efficiency measures.

2.5 Other Observations and Issues

The AID-Costa Rica Energy Officer is highly knowledgable, having been on station in Costa Rica for 16 years. However, his primary duties are those of Engineer to the Embassy-Aid complex, rather than energy. Accordingly, only limited time can be given, at the Mission level, to energy needs as such. Several suggestions and views were offered:

- Greater coordination in Washington between the Mission regional staff and the Office of Energy could assist in making the contributions of the latter more valuable at the Field level.

- The objective in energy should be oriented to assist the agreed-upon Mission strategy for the country's overall national development and its various directly connected subobjectives. Thus, the primary targets should be reduction of hard currency needs, growth of exports and the like, with energy projects selected, justified and "sold" on the basis of their ability to contribute directly to such preapproved needs. (These points are already believed to be well understood at the Washington level and are simply being reinforced by the inclusion of these field comments.)

- More emphasis should be placed on: (1) implementation problems (often involving social and policy development issues) as opposed to technical expertise in energy technology and: (2) the development of in-country capabilities which will remain in place after the external consultants have gone home.

While the individuals in DSE and AID-Costa Rica stated that they remained in contact with counterpart activities elsewhere in the region, there was little evidence of the mounting of regional attacks on common problems. The ROCAP activities were not apparently held in high repute. A general view was that such large "projects" tended to lose effectiveness. There was more interest in the possibility of smaller regional Working Groups whose personnel might periodically share experiences. The Regional Conferences, while useful at political levels, were also seen as no substitute for the longer and deeper discussion of issues and experiences which might be obtained at the less formal level of periodic working group discussions.

These comments merit careful consideration in the light of the facts that independent efforts are proceeding in several broadly shared energy issue areas:

- transportation sector conservation diagnostic studies in the Dominican Republic,
- private power and cogeneration studies as a new focal point of the future ECSP, and
- varying degrees of success in the historic industrial energy demand management activities throughout the region.

It appears that more effort might be given to attempts to transfer not technology but success in implementation where it has been able to be achieved.

There is agreement that the electric power generating sector in Costa Rica is a major target for future energy-oriented activities. However, TMS believes that the liquid fuels refinery and distribution activities in Costa Rica (RECOPE) also need attention. RECOPE appears to have the major current influence in energy matters because it presently acquires fuel imports at low

World Market prices, markets them at higher in-country prices, and thus provides the funding source for major national development activities. It is not clear to what degree national planning has taken into account what transitional measures will be needed when World Oil prices begin to rise again. Also the contributions to transportation sector energy inefficiencies of significant variability in RECOPE's fuel quality is widely acknowledged in discussions but apparently not pursued as an energy supply issue.

Finally, the current HBC diagnostic studies of cogeneration for the region were discussed with AID and DSE representatives as well as independently reviewed by TMS. All parties share a concern that the apparent attractiveness of the approach, as set forth in the HBC reports, should be somewhat tempered by more detailed considerations of implementation issues and practicalities, particularly in the light of the sequential experience in the transportation sector studies as set forth in Section 2.4. In-country officials in Costa Rica expressed concern over the level of generality of many of the HBC recommendations and the need for deeper treatment of country specific issues over and beyond the technical, economic, and financial summary approach currently being pursued.

Other emerging energy issues in Costa Rica were noted to be possibly associated with:

- the proposed new Hydrocarbon law which would permit exploration and development assistance by the private sector for oil and coal resources,
- energy implications of siting "offshore" industries in Costa Rica, and
- adequacy of long-term energy planning and integration of energy issues with overall national development issues.

2.6 Summary of Key Points for Follow-up

The interviews in Costa Rica tend to emphasize the following topic areas for further consideration and follow-up:

- adequacy of current ECSP approach to diagnostic studies, and likely need for greater emphasis on practicality of recommended implementation steps;

- determination of future primary role for ORNL as an EPDAC contractor to AID-Washington;

- coordination of Office of Energy initiatives with Headquarters Mission and sectoral needs and Field Mission strategies for national development;

- increased effort on creation and preservation of in-country capabilities, private sector financial involvement, and long-term support needs;

- more focused working of elected priority areas including: building on and transferring implementation success from one country to another; looking for increased regional synergisms; and revisitation of previous study/demonstration areas after the passage of time for reinforcement or better understanding of lessons to be learned; and

- better definition of the contribution of energy-related activities to key needs of progress in national development and reduction of foreign exchange requirements.

3.0 DOMINICAN REPUBLIC

3.1 Introduction

Interviews in Santo Domingo, Dominican Republic took place on January 15, 1988. Table 2 lists the interview subjects and their affiliations. As in Costa Rica, the discussion focused both on specific past experiences under EPDAC and ECSP, and on future needs.

HBC activities involving the Dominican Republic were of four topics:

- Evaluation (The Dominican Republic Industrial Energy Conservation Program, HBC Activity 169)

- Regional Conference Support (as discussed previously in Section 2.2)

- Diagnostic studies (Industrial Energy, Cogeneration, Transportation sector)

- Assistance to AID-Washington in identifying specific new demonstration projects (as discussed previously in Section 2.2)

TABLE 2

INTERVIEW SUBJECTS IN DOMINICAN REPUBLIC

	Name	Affiliation
1.	William Smith	USAID, Chief Engineer
2.	Fernando Perdomo	USAID, Project Engineer
3.	Oscar Lamarche	Comision Nacional de Politica Energetica (COENER), Executive Secretary
4.	Carlos Sanchez	COENER, Division de Ahorro y Conservacion de Energia, Staff Engineer

ORNL has not been directly involved in EPDAC activities in the Dominican Republic.

3.2 Overall Views of HBC

The in-country evaluation of HBC was presented most directly and in summary comparative terms by AID-Dominican Republic. HBC is seen as neither bad nor poor, but also not as good (useful to field needs) as a number of other (better) contractors.

The COENER experience was presented less sharply and was somewhat more positive in character. HBC is a welcomed advisor. However, some of the past experiences with the company were better than others; and, in particular, there have been frustrations in the ongoing study relationship on the transportation sector, discussed further in Section 3.4. Nevertheless, there is great interest in the current cogeneration diagnostic study and in the possibility of continuing access to HBC through the ECSP. A positive response to the AID inquiry on this point is in progress.

With respect to the non-diagnostic HBC activities:

- The Evaluation effort was well done, useful, and efforts were made to implement most of the recommendations.
- The Regional seminar was well done. (However, as in Costa Rica, there were some comments that seminars were only of limited value in contributing to subsequent implementation needs.)
- As noted in Section 2.2, the attempts to identify new demonstration projects under HBC Activity 183 did not come to fruition.

3.3 Overall Views of ORNL/National Laboratories

There was no experience with ORNL to cite. There was a general view in AID that national laboratories, while technically highly competent, were difficult to control in the field. Experiences with Los Alamos were apparently the primary source of this view. There were current procedural problems with Argonne attempting to send a team into the field without adequate procedural preparation.

3.4 Transportation Study

A "joint" HBC/COENER study on the transportation sector has been underway since October of 1986. The study approach was designed by HBC and called for extensive data collection and interpretation by COENER before proceeding to the next phase. COENER has experienced substantial difficulties and would have welcomed an "interim" visit by HBC to assist.

Considerable effort and time have been invested in obtaining statistics which are outside the priority area of the study. (COENER described this as being 60% of the effort.) Also, some of the data in the primary area are not able to be obtained. COENER reported that a number of aspects of the data forms developed by HBC were simply "not practical." AID-Dominican Republic objected to the heavy and early data orientation of the study design, but reported that HBC insisted on it.

The interviewees all agreed that a primary transportation efficiency issue is the lack of an effective public transportation system in the Dominican Republic. An attack on this problem requires city planning and social/policy analysis skills which may or may not reside in HBC personnel. In any event, the interviewees believe that some 15 months have now gone by, and it is still not clear that an effective attack on transportation sector issues should or can be mounted. A review of the written material on this study also suggests that HBC may be expecting COENER to do more analyses of the data (to identify priority policy options) than COENER either has done or expects to do. AID-Washington and AID-Dominican Republic might wish to consult on the status of this ongoing study in order to minimize future frustrations and problems.

Despite the above problems, COENER also noted that the activity to date had been useful in forcing the continuing cross-agency development of energy statistics in the Dominican Republic, and that COENER wanted the study effort to continue because of the value of maintaining a focus on this sector.

3.5 Other Observations and Issues

AID identified an important ongoing priority for both AID and COENER as residing in the Industrial Energy Conservation Project.

HBC and AID effort is continuing on cogeneration diagnostic studies for the Dominican Republic, despite an early finding that little such potential resided in the near term in the country. AID-Dominican Republic described this as an AID-Washington priority determination. Perhaps care should be taken to ensure that AID, HBC, and COENER activities in this area do not divert effort away from higher priority needs in the country.

3.6 Summary of Key Points for Follow-up

Discussion in the Dominican Republic led, without exception, to the identification of similar issues and findings as in Costa Rica.

The primary new point for follow up resides in the need, both in AID-Dominican Republic and in COENER, for effective centrally-funded assistance. A positive general response by COENER, to the AID offer of new services under the ECSP continuation, still leaves open exact mechanisms whereby such assistance can be channeled to ensure the best match between HBC (and ORNL) skills and Field Mission needs and priorities. In any event, a mutual revisitation on future planned activities in the transportation sector study appears to be a desirable early step.

4.0 GUATEMALA

4.1 Introduction

Interviews in Guatemala City, Guatemala took place during the period January 19 through January 20, 1988. Table 3 lists the interview subjects and their afilintions. Discussion topics were similar to those pursued in Costa Rica and the Dominican Republic.

Table 3

INTERVIEW SUBJECTS IN GUATEMALA

	Name	Affiliation
1.	Roberto Figueroa	USAID, Energy Officer
2.	Keith Kline	USAID, Regional Office of Central America and Panama (ROCAP), Staff Engineer
3.	James D. Lay	National Rural Electric Cooperative Association (NRECA), Program Manager, Central American Rural Electrification Support Program
4.	Luis Enrique Chinchilla Aquino	Instituto Centro Americano de Investigacion y Technologia Industrial (ICAITI), Subgerente-Promocion, Projecto de Efficencia Energetica (PEEIR)

HBC activities involving Guatemala were of two topics:

- Evaluation (the PEEIR activity of ROCAP and ICAITI, HBC Activity 170), and
- Regional Conference Support (as discussed previously in Section 2.2).

ORNL, until recently as discussed in Section 4.3 below, has not been directly involved in activities in Guatemala.

4.2 Overall Views of HBC

The 1984 review of the Regional Industrial Energy Efficiency Project (PEEIR) was conducted by HBC for ROCAP, the funding agency and ICAITI, the performing entity, and published in a February 1985 HBC report under the ECSP. In the interviews, reference was also made to a second (1986) HBC evaluation of the PEEIR; however, the HBC final report on the first phase of the ECSP describes only the first of these evaluations, leading to the possibility that the second evaluation was funded through a different mechanism. In any event, both evaluations were covered in the interviews reported here.

Differing views were presented of the value of the HBC evaluations:

- The Director of ICAITI was reported (second hand information) to be somewhat irritated by the evaluations. Although highly favorable overall to the project, the concern was that two much attention was given to minor (although troublesome) issues, and not enough attention to recommendations which might have proven to be of more value in moving the complex project forward with higher momentum.
- The ROCAP interviewee, a close confidante of Carl Duisberg (The ROCAP chief officer in Guatemala), currently seconded by ROCAP to ICAITI, found the evaluations to be very general and only of moderate value. He believed that HBC special technical skills might be of interest to ICAITI in the future but was uncertain whether or not the irritations engendered in the evaluations could be put aside well enough to allow ICAITI to request HBC services for its own needs.
- The ICAITI staff engineer held a positive view of HBC (and the evaluation experience) although he noted that some recommendations were "impractical to implement."

- The current AID energy officer was not serving in this role at the time, had no personal experience with HBC, and had no clear view of the type of services which they had provided or could provide in the future.

The PEEIR comes to an end in June 1988. ROCAP and ICAITI are now giving primary attention to how the major skills and in-place activities developed under the project can be made self-sustaining and be protected from being lost when the project ends. The project appears to have been very successful (although quantitative follow-up evaluation measures, now being sought in its final phase, are proving very difficult to obtain). TMS reviewed extensive sets of project materials and found them to be highly professional and impressive. All parties interviewed now agree that the issue of post-project self-sustaining continuation is a major consideration which was not properly built into the design of the project, and which should have been identified earlier in the mid-project evaluation phases. Now that the issue has been identified (and the project's activities over the last 5 years so generally applauded), the current ROCAP and ICAITI activities over the next 6 months appear very important. ICAITI appears highly motivated to serve regional (not just Guatemalan needs), and the AID-Washington Office of Energy may wish to consider supporting ICAITI in this endeavor.

4.3 Overall View of ORNL/National Laboratories

ORNL is not directly known in Guatemala. However, contacts by ORNL are currently occurring with entities headquartered in Guatemala (neither ICAITI nor the AID-Guatemala energy officer) to provide assistance in the area of household fuels, an established area of ORNL expertise. When advised of this by TMS, the AID-Guatemala Energy Officer expressed extreme interest, and identified this topic as a major energy issue in the country.

Views of the national laboratories in general were, as elsewhere in the region, driven by experiences with Los Alamos and coincided with those of other interviewees. While the technical expertise was applauded, the working approach was not, leaving a bad taste overall, and leading to a view that the practical results being obtained were acquired at a very high cost that could have been applied more productively to other need areas and other participants.

ICAITI personnel were asked about the possibility of forming a liaison with ORNL to assist ICAITI in its post-project energy objectives in the region. This was received with some interest (and more favorably than a similar discussion focussed on HBC) because of institutional similarities between ORNL and ICAITI. The primary concern was the large size of ORNL relative to ICAITI (200 technical people, about 50 of whom are professionals). If ORNL could operate in an assistance mode, rather than in a lead role, such a relationship might be possible and productive for both. ORNL language skills would, however, be essential. The topic areas of primary interest would likely be: industrial energy efficiency, use of agricultural residues for cogeneration and/or power-only, and mini-hydro facilities.

As a final matter for possible central assistance to the Guatemalan energy infrastructure, ICAITI is very interested in knowing more about short technical training courses available in the region and/or the U.S.

4.4 Other Observations and Issues

AID-Guatemala would welcome a deeper understanding of the possible use of the centrally-funded ECSP. The content of the AID-Washington cable on program continuation, and the skills available through HBC and ORNL, are simply not understood. As these were explained in the course of the interview, a high level of interest was generated.

A major area of need is for an objective study of cogeneration and private power (including mini-hydro) in the country. The central electric power system is getting into serious trouble and does not have strong capabilities. (Indeed, the proposed NRECA activities are directed at supporting independent municipal systems in-country.) AID-Guatemala was unaware of the extensive HBC studies on cogeneration (and private power) in Costa Rica and elsewhere. These should be provided for reference purposes. The head of the Guatemalan Ministry of Energy is strongly opposed to the private power concept, but many other key energy figures and entities in the country (including the government-owned central electric generating company) are more open to the concept. An independent, fact-finding, authoritative and objective review of the matter (by HBC) might make it more possible to resolve some of these differences.

A precedent exists for such a study approach, based on a previous study of possible privitization of Guatemalan telecommunications which was well done and well received.

In summary, the three new topic areas for possible follow-up, as developed in these interviews, are:

- assistance to AID-Guatemala in analyses of electric power issues and needs (possibly through HBC);
- assistance to ICAITI (possibly through ORNL) in transiting to a post-project mode of self-sustaining <u>regional</u> activity in energy; and
- effective utilization of ORNL on household fuels energy topics which appear to be of considerable in-country interest.

APPENDIX G

ECSP PROJECT DETAILS

APPENDIX G

ECSP PROJECT DETAILS

Summary of ECSP Activities
(Inception to date)

ACTIVITY	Period of Performance	Cumulative Expenditures (4/30/87)*
1. Program management and development, including preparation of in-country missions and program planning activities; prepare white paper on private power generation; revise financing energy conservation report; energy use standards work; summarize ECSP work; (HBC reference 150/151)	9-15/83-ongoing	$564,352
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	$125,561
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	$88,638
4. Development of data base on AID-funded energy conservation initiatives (HBC reference 154)	10/8/83-5/11/84	$13,312
5. Preparation of energy auditing manual for use in Sri Lanka (HBC reference 155)	10/21/83-2/27/84	$43,715
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	$77,788
7. Completion of full audit reports and feasibility study of energy conservation projects for Sri Lanka Tyre Corporation and Thulhiriya Textile Mills (HBC reference 156(b))	3/15/84-8/15/84	$71,017

*Based on labor costs incurred and invoices received only.

Summary of ECSP Activities
(Inception to date)

ACTIVITY	Period of Performance	Cumulative Expenditures (4/30/87)*
8. Development of ECPIE: Energy Conservation Project Investment Evaluation Model and user manual (HBC reference 157)	1/3/84-8/30/84	$43,879
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	$10,295
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	$26,059
11. 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	$31,785
12. 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)	5/14/84-3/31/85	$29,138
13. Planning and preparation for the Latin America/Caribbean Regional Energy Conservation Seminar (HBC reference 162)	5/14/84-6/30/85	$111,419
14. Missions to Ecuador and Peru to assist in developing industrial energy conservation outreach services and programs (HBC reference 163)	5/14/84-3/31/85	$19,769

Summary of ECSP Activities
(Inception to date)

ACTIVITY	Period of Performance	Cumulative Expenditures (4/30/87)*
15. Ecuador industrial energy conservation training, curriculum development, and audits (HBC reference 164)	7/14/84-3/31/85	$97,286
16. Revision of training manual for energy demand management and conservation training course for industry and buildings (HBC reference 165)	7/14/84-3/31/85	$13,431
17. Revision of industrial energy audit manual (HBC reference 166)	7/14/84-9/1/84	$15,242
18. Evaluation of the IIE/TVA Conventional Energy Training Project (CETP) Course (HBC reference 167)	6/30/84-8/30/84	$21,704
19. Organization and planning of the Pakistan National Energy Conservation Center (HBC reference 168)	9/8/84-6/15/85	$229,182
20. Industrial Energy Conservation Program (Dominican Republic) Evaluation (HBC reference 169)	10/1/84-2/28/85	$23,817
21. Regional Industrial Energy Efficiency Project (Central America and Panama) Evaluation (HBC reference 170)	10/1/84-3/15/85	$38,763
22. Energy Initiatives Project (Djibouti) Evaluation (HBC reference 171)	11/30/84-2/15/85	$16,823
23. Fact-finding mission to Haiti to examine the energy efficiency of the sugar and manufacturing industries (HBC reference 173)	2/20/85-12/31/85	$12,291

*Based on labor costs incurred and invoices received only.

Summary of ECSP Activities
(Inception to date)

ACTIVITY	Period of Performance	Cumulative Expenditures (4/30/87)*
24. Joint reconnaissance visit to Sri Lanka to identify energy bottlenecks in the agricultural sector (HBC reference 177)	4/16/85-12/31/85	$15,090
25. Demonstration program and public information campaign to increase energy efficiency in the transportation sector in Costa Rica; and study of transportation energy conservation in developing countries (HBC reference 178)	6/1/85-12/31/86	$143,797
26. Study of impediments to private sector involvement in non-utility power generation (HBC reference 179/1004)	9/1/85-4/30/87	$166,412
27. Market analysis of cogeneration opportunities in USAID-assisted countries (HBC reference 180)	9/15/85-4/30/87	$16,749
28. Institutional barriers to private sector investment in energy conservation (HBC reference 181)	10/14/85-4/30/87	$51,307
29. General technical assistance: Thailand, Indonesia, Dominican Republic (HBC reference 182)	10/16/85-ongoing	$113,218
30. Innovative private sector financing (HBC reference 183)	10/15/85-12/31/86	$22,062
31. Technology Transfer Teams for Energy Conservation (HBC reference 184)	10/16/85-ongoing	$72,391

*Based on labor costs incurred and invoices received only.

Summary of ECSP Activities
(Inception to date)

ACTIVITY	Period of Performance	Cumulative Expenditures (4/30/87)*
32. Regional Energy Conservation Workshops/Seminars: Asia/Near East Workshop (HBC reference 185)	10/15/85-12/31/86	$131,572
33. Information exchange and energy conservation network development (HBC reference 186)	10/15/85-4/30/87	$62 303
34. Asia/Near East Workshop Followup (HBC reference 187)	10/1/86-4/30/87	$39,478
35. Egypt Energy Conservation and Efficiency Project (HBC reference 188)	10/1/85-6/30/87	$271,918
36. Energy Demand Management in Morocco (HBC reference 189)	10/1/86-12/31/86	$35,037
37. Non-Utility Power Generation in India (HBC reference 199)	4/29/86-ongoing	$99,189

*Based on labor costs incurred and invoices received only.

SUMMARY

Several projects received additional funding from AID missions and bureaus, together they contributed $1,035,000, or 35 percent of the total. These mission buy-ins included:

- $70,000 from the mission in Manila, Philippines for the Technology Transfer for Energy Management study (HBC Reference 153)
- $60,000 from the mission in Colombo, Sri Lanka for the Energy Demand Management and Conservation Training Course (HBC Reference 156(a))
- $50,000 from the Bureau for Latin America and the Caribbean for the Latin American/Caribbean Regional Energy Conservation Workshop (HBC Reference 162)
- $300,000 from the mission in Islamabad, Pakistan for the Organization and Planning of a Pakistan National Energy Conservation Center project (HBC Reference 168)
- $13,000 from the mission in Santo Domingo, Dominican Republic for the Industrial Energy Conservation Program Evaluation (HBC Reference 169)
- $20,000 from the AID Regional Office for Central America and Panama (ROCAP) for the Regional Industrial Energy Efficiency Project Evaluation (HBC Reference 170)
- $30,000 from the mission in San Jose, Costa Rica for the transportation energy conservation demonstration project (HBC Reference 178)
- $100,000 from the Bureau for Asia and the Near East for the Private Sector Involvement in Non-Utility Power Generation work (HBC Reference 179)
- $60,000 from the Bureau for Asia and the Near East for the Asia/Near East Workshop on Energy Conservation and Private Power Generation (HBC Reference 185)
- $250,000 from the mission in Cairo, Egypt for the Energy Efficiency Technology Investment Promotion project (HBC Reference 188)
- $82,000 from the Bureau for Asia and the Near East for the Non-Utility Power Generation in India project (HBC Reference 199).

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APPENDIX H

EPPD PROJECT DETAILS

APPENDIX H

EPPD PROJECT DETAILS

ORNL EPDAC CENTRALLY-FUNDED ACTIVITIES FOR MISSIONS AND COUNTERPARTS

I. ENERGY PLANNING AND INSTITUTION-BUILDING

a. Liberia project (1982-85)

b. Haiti project (1985-86)

II. ENERGY PROJECT DESIGN

a. Pakistan: energy planning project (prep. SOW)

b. India: PACER project (assisting D. Jhirad)

III. PRE-INVESTMENT EVALUATIONS OF PROPOSED ENERGY PROJECTS

a. Madagascar: pinewood carbonization (with World Bank)

b. Jordan: oil shale combustion for power generation (with Bechtel)

c. Madagascar: household fuel alternatives (with World Bank)

d. Zaire: household fuel alternatives (with World Bank)

e. Pakistan: financial packaging of Lakhra power plant

IV. MISSION SUPPORT

a. Bangladesh: electric power expansion planning

b. Philippines: project evaluation assistance

c. Ecuador: project evaluation (costs shared with mission)

V. OTHER

a. Costa Rica: experimental test of transportation energy conservation potentials (with Hagler-Bailly)

January 6, 1988

BUY-INS TO ORNL EPDAC PLANNING PROJECT

FUNDING YEAR	AMOUNT (K)	COUNTRY	PURPOSE
1985	80	Pakistan	First National Coal Conference
1985	57	Bangladesh	Rural electrification project evaluation
1986	55	Pakistan	Further funding for Coal Conference
1986	15	India	Technical assistance; project planning
1986	14	Madagascar	Pinewood carbonization study (mission contribution)
1986	330	Pakistan	Coal briquette market assessment
1986	316	India	Institution-building for coal R&D
1986	19	Ecuador	Renewable Energy Project evaluation (Mission contribution)
1987	50	Sudan	Energy project evaluation
1987	20	Pakistan	Further funding for coal briquette market assessment
1987	100	Africa Bureau	Technical assistance with energy project design and development
1987	300	ROCAP	Rural electrification project monitoring and evaluation
1988*	60	India	Further funding for coal R&D institution-building
1988*	500	India	Technical assistance with PACER project
1988*	50	ROCAP	Market assessment for improved cookstoves

* Paperwork in progress

APPENDIX I

EPDAC PROJECT DESIGN SUMMARY LOGICAL FRAMEWORK

APPENDIX I

EPDAC PROJECT DESIGN SUMMARY LOGICAL FRAMEWORK

AID 1020-20 (3-11) SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID IN ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Life of Project:
From FY 87 to FY 92
Total U.S. Funding $22 million
Date Prepared: 03/25/87

Project Title & Number: Energy Policy Development and Conservation (936-5723)

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement:		Assumptions for achieving goal targets:
To promote the economic growth and increased productivity of developing countries by providing energy and power at the lowest possible economic, financial and social cost.	1) Increased investments in innovative systems and approaches; 2) pay private and public institutions, policies to promote private sector role in technology commercialization, and capital mobilization; 3) increased reliability and availability of energy and electricity; 4) greater productivity of industrial and agricultural enterprises; 5) lowered capital requirements per unit of delivered energy; 6) improved financial performance of LDC utilities; 7) enhanced indigenous capability for investment decision-making, policy formulation, enterprise management and technology adaptation and innovation.	Information and case examples disseminated by the project and published in books, peer-reviewed journals, reports, magazines and news letters.	That economic growth and productivity can be accelerated by improving the availability of delivered energy and power.

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AID 1020-11-79
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Energy Policy Development and Conservation (936-5728)

Life of Project:
From FY 87 to FY 92
Total U.S. Funding $22 million
Date Prepared: 03/25/87

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose:	Conditions that will indicate purpose has been achieved: End of project status.		Assumptions for achieving purpose:
To provide technical assistance to develop and introduce policies, R&D approaches and investment strategies that relieve current energy and power problems, while minimizing vulnerability to future energy crises, and to achieve measurable improvements in the technical, financial and managerial performance of energy systems and institutions.	Investment commitments from public and private entities; on-the-ground improvements in technical, financial and managerial performance; existence of country policies, laws and incentives.	Evaluations will be conducted periodically. LDC energy and economic reports; budgets and program documents; financial commitments from other international lenders and private capital sources.	That governments and donor agencies have been motivated by difficulties in mobilizing capital, size of energy investment budgets in relation to gross annual domestic budgets, the indispensable role of energy in ensuring economic growth, uncertainties regarding the future of oil prices and fuelwood depletion, high priority to energy issues in development planning.

AID 1020-24 (7-71)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 87 to FY 92
Total U.S. Funding $22 million
Date Prepared: 02/25/5

Project Title & Number: Energy Policy Development Conservation (936-5728)

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs:
Country-specific energy investment plans, pre-investment feasibility studies, market and policy analyses. Conferences, workshops, seminars, and studies on R&D strategy and technology commercialization involving U.S. and LDC manufactures, utilities, R&D organization and financial institutions. Dissemination of refereed journal articles book; reports and newletters.	An estimated 10 country-specific pre-investment packages, 15 reports on technology commercialization, R&D strategy, private sector opportunities, and pricing policy, and 5 major international workshops, seminars or conferences.	Project implementation documents, including PIO/Ts, contractor reports, project manager's annual reports, etc.	That sufficient host government personnel and funds will be made available to work with U.S. teams toward accomplishment of project purpose.

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Page Attachment Supplement 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Energy Policy Development and Conservation (936-5728)

Life of Project:
From FY 87 to FY 92
Total U.S. Funding: $22 million
Date Prepared: 03/25/87

PAGE 4

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs:
Data on energy markets, resources, conversion systems, prices and capital requirements. Analytic tools for investment decision-making, social and environmental impact assessment, and least-cost energy and power planning. Expertise drawn from U.S. and LDC R&D organizations and private sector entities.	Major activities will continue in energy analysis, assessment and institution building; power systems investment planning, energy pricing and household fuels. Major conservation activities will be conducted in such areas such as electric power, household fuels and efficient use of energy for rural enterprises.	Contractor reports; monitoring by A.I.D. project office; evaluation.	That project budgets will be sufficient in each year of funding to procure the necessary expert services; that direct-hire staff will be sufficient to provide effective management; that a sufficient supply of the required expertise can be found and procured from private-sector, university, non-profit or national laboratory sources.

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APPENDIX J

LIST OF REPORTS REVIEWED

- HAGLER, BAILLY ECSP REPORTS
- ORNL REPORTS

APPENDIX J

LIST OF REPORTS REVIEWED

Hagler, Bailly ECSP Reports

- Accelerating Private Investment in Energy Conservation: Identification and Analysis of Key Barriers and Policy Tools.
- Advisory Group Trip Report to Thailand and Pakistan: Cogeneration Technology Transfer, September 29 - October 9, 1986.
- Asia/Near East Workshop on Energy Conservation and Private Power Generation Proceedings.
- Asia/Near East Workshop on Energy Conservation and Private Power Generation Summary and Abstracts.
- Cogeneration in Developing Countries: Prospects and Problems.
- Cogeneration Technology Transfer Team Meeting, Briefing Book, June 24, 1986.
- Conclusions and Recommendations of the Latin America and Caribbean Regional Energy Conservation Seminar.
- Costa Rica: Improving the Efficiency of the Power Sector Decentralized Hydropower in AID's Development Assistance Program.
- Development of Private Power in Developing Countries: A Guidebook.
- Djibouti Energy Initiatives: Mid-Term Evaluation/Conservation Component, Draft Report, January 1985.
- Dominican Republic, Technical Assistance to the National Energy Policy Commission: Proposal for Studying Transport Sector Energy Use.
- Dominican Republic, Energy Conservation and Resource Development/Component 2: Industrial Energy Conservation Program.
- Egypt Energy Conservation and Efficiency Project, Draft Reports: Technical Analysis; Cost Effectiveness Analysis; Institutional Assessment.

- El Sector de Transporte en Costa Rica y las Oportunidades para la Conservacion de Energia.
- Energy Audit Report for Compania de Cervezas Nacionales C.A., Guayaquil, Ecuador.
- Energy Audit Report for Sri Lanka Tyre Corporation, Kelaniya, Sri Lanka.
- Energy Audit Report for Textiles Continental S.A.
- Energy Audit Report for Thulhiriya Textile Mills, Thulhiriya, Warakapola, Sri Lanka.
- Energy Conservation Project Investment Evaluation Model (ECPIE): A User's Manual.
- Energy Conservation Services Program: End of Contract Report.
- Energy Conservation Services Program: Quarterly Reports.
- Energy Conservation Services Program: Technical Assistance to Developing Countries.
- Energy Demand Management and Conservation Manual for Industry and Buildings.
- Energy Demand Management in Morocco: A Prefeasibility Analysis, with an Executive Summary in French.
- Energy Demand Management in Morocco: Feasibility Study, with an Executive Summary in French.
- Energy Demand Management in Morocco: Institutional Analysis.
- Energy Demand Management in Morocco: Market Study for Energy Demand Management Equipment in Morocco through 1996, Task 4.1.
- Energy Equipment Cost Directory.
- Energy Standards Directory for the Process Industry.
- Evaluation of the 1984 Tennessee Valley Authority's Energy Conservation Training Course (Industrial and Utility), August 30, 1984.
- Feasibility Study of Fuel Substitution at the Thulhiriya Textile Mills.

- Feasibility Study of Sri Lanka Tyre Corporation Factory.
- Financing Energy Conservation in Developing Countries.
- Haiti: Energy Efficiency in the Sugar and Manufacturing Industries.
- Implementation of Fuel Conservation Measures in Costa Rican Private Bus and Taxi Fleets.
- Implementation of Fuel Conservation Measures in Costa Rican Private Bus and Taxi Fleets (Spanish Executive Summary).
- Industrial Energy Auditing Manual.
- Industrial Energy Conservation Training Program in Ecuador--Phase A: Training Audits in the Guayaquil Area and Technical Assistance.
- Innovative Approaches to Financing Energy Conservation Investments in Developing Countries.
- Kingdom of Thailand: The National Energy Conservation Center: A Mobilization Plan.
- Kingdom of Thailand: The National Energy Saving Goals for Industry, 1986-1991.
- Manuel d'Audit Energetique Industriel (French translation of Industrial Energy Audit Manual).
- National Energy Conservation Program Annex I: Detailed ENERCON Programme Activity Schedule for Year 1 (Pakistan).
- National Energy Conservation Program Vol. 1 (Pakistan).
- National Energy Conservation Program Vol. II: Supporting Data and Analysis (Pakistan).
- National Energy Conservation Program, Annex III: Candidate Industries for Energy Audits and Project Implementation in the First Year.
- National Energy Conservation Program, Annex II: Indicative Institutional Roles (Pakistan).
- Non-Utility Power Generation in Developing Countries: A Summary of 5 Studies.
- Non-Utility Power Generation in the Indian States of Gujarat and Maharashtra: Potential, Impediments, and Policy Issues.

- Opportunities for Private Power Generation in Developing Countries: Policy Analysis Part 1.
- Overview of Technology Transfer Team Activities and Summary of the Fourth Meeting.
- Potential and Policy Issues of Industrial Cogeneration in the Dominican Republic.
- Preliminary Energy Audit Report for La Cemento Nacional, C.A.
- Private Power Generation in Developing Countries: Technology Transfer Team Meeting No. 4.
- Private-Sector Power Generation: Information System Development and Networking.
- Private-Sector Small-Scale Power Generation in Pakistan: Potential, Impediments, and Policy Issues.
- Private-Sector Small-Scale Power Generation in Thailand: Potential, Impediments, and Policy Issues.
- Programme de Cooperation Pour les Economies d'Energie (ECSP Brochure).
- Programme de Servicios para la Conservacion de la Energia (ECSP Brochure).
- Prospects for Transportation Energy Conservation in the Dominican Republic: Progress Report.
- Regional Industrial Energy Efficiency Project: First Evaluation Final Report.
- Road Transportation Energy Conservation: Needs and Options in Developing Countries.
- Seminario Seminario Regional Sobre la Conservacion de Energia en America Latina y el Caribe: Conclusiones y Recommendaciones.
- Seminario Sobre la Conservacion de Energia/Energy Conservation Seminar, Papers.
- Sri Lanka: Energy in Agriculture--Report on Study Team Visit, April 1985.
- Strategy and Program Plan for Energy Conservation FY86 and FY87.

- Study of the Feasibility of Publishing a Directory of U.S.-Manufactured Energy-Efficient Equipment for Distribution in Developing Countries.
- Summary of Technology Transfer Team (TTT) Meeting, January 28, 1987.
- Transportation Energy Conservation in Costa Rica: A Work Plan.
- Transportation Energy Conservation in Costa Rica: Report of In-Country Activities, June 10-19, 1985.
- Transportation Sector in Costa Rica and Opportunities for Energy Conservation.
- U.S. Agency for International Development Energy Conservation Initiatives.

ORNL REPORTS

PUBLICATIONS OF THE EPDAC PROJECT:

Energy Planning and Policy Development Program

October 1987

I. INTEGRATED NATIONAL ENERGY PLANNING IN AID-ASSISTED COUNTRIES

A. Liberia

National Energy Committee, Government of Liberia, An Integrated National Energy Program for Liberia, Monrovia, Liberia, June 1985.

An Assessment of Energy Options for Liberia, ORNL-5989, November 1983.

Barnes, R. W. and R. E. Rhinelander, "The Potential for Energy Conservation in the Light Industrial and Commercial Sectors in the Liberian Economy," Oak Ridge National Laboratory, November 1982.

Barron, W. F., "The Commercial Sector in Liberia," working paper, Oak Ridge National Laboratory, September 1982.

Barron, W. F., G. Samuels, and T. J. Wilbanks, "A Near-Term Alternative for Reducing Liberian Oil Imports (Wood Gasification)," Oak Ridge National Laboratory, November 1982.

Barron, W. F. and T. J. Wilbanks, "An Introduction to the Energy Assessment Process," Oak Ridge National Laboratory, November 1982.

Barron, W. F., B. F. Hobbs, L. Kawah, and V. Sherif, "Electrical Services Provided by the Liberia Electricity Corporation (LEC)," working paper, Oak Ridge National Laboratory, January 1983.

Hill, L. J., The Liberian Macroeconomy and Simulation of Sectoral Energy Demand: 1981-2000. ORNL/TM-9065, Oak Ridge National Laboratory, June 1984.

Hill, L. J., "Modeling the Macroeconomy/Energy Economy Relationship in Developing Countries: The Case of Liberia", Journal of Developing Areas, Forthcoming, October 1987.

Hobbs, B., "Background Paper on Costs of Alternative Electrical Generation Technologies for Liberia," Oak Ridge National Laboratory, February 1983.

Kawah, L., J. Sandikie, and W. Barron, "The Liberian Transport Sector," working paper, National Energy Committee, Monrovia, Liberia, December 1982.

Knight, C. G., J. Dobson, and J. S. Sandikie, "Energy Use and Supply Potential in the Agricultural and Forestry Sectors in Liberia," working paper, Oak Ridge National Laboratory, March 1983.

Neufville, M. -H., W. F. Barron, and P. Koshel, "The Evolution of Energy Planning in Liberia," Energy Systems and Policy, 10(2), 1987.

Neufville, M. -H. and J. Sandikie, "Residential Energy Use in Liberia," working paper, National Energy Committee, Monrovia, Liberia, March 1983.

Neufville, M. -H. and T. J. Wilbanks, "Domestic Petroleum as an Energy Supply Option for Liberia," working paper, Oak Ridge National Laboratory, March 1983.

Perlack, R. D., W. F. Barron, and G. Samuels, An Analysis of the Costs of Fuel Supply for Wood-Fired Electric Power Plants in Rural Liberia, ORNL/TM-6136, Oak Ridge National Laboratory, June 1985.

Perlack, R. D., W. F. Barron, and G. Samuels, "An Analysis of Feedstock Supply Costs for Wood-Fired Electric Power Plants in Liberia, West Africa," Natural Resources Forum, 10(4), 1986.

Samuels, G., Liberian Energy Consumption and Sectoral Distribution for 1981, ORNL/TM-9424, Oak Ridge National Laboratory, February 1985.

Samuels, G., An Evaluation of the Liberian Petroleum Refining Company Operations: Crude Oil Refining vs Product Importation, ORNL/TM-9472, Oak Ridge National Laboratory, February 1985.

Samuels, G., Summary of Energy Planning Technical Support to the Government of Liberia, ORNL/TM-0676, Oak Ridge National Laboratory, June 1985.

Technical Subcommittee of the National Energy Committee, "Possible Actions for Near-Term Energy Conservation," National Energy Committee, Government of Liberia, Monrovia, Liberia, December 1982.

Thomas, C., "Petroleum Refinery Operations, Mines and Industry in Liberia," working paper, Oak Ridge National Laboratory, August 1982.

Wilbanks, T. J., "Energy Use in the Governmental Sector in Liberia," working paper, Oak Ridge National Laboratory, March 1983.

Wilbanks, T. J., "Institution-Building for Energy Planning," in Energy Planning, ed. T. Beresovski, UNESCO, Paris, 1986.

B. Haiti

Jones, D. W., et al., Energy and Agriculture in the Haitian Economy: A Computable General Equilibrium Model, ORNL-6294, to be published.

Samuels, G., "Major Decisions for Haiti: Whether to Develop Other (than Energy Cane) Biomass Sources (Palm Oil, Leucana, etc.)," working paper, Oak Ridge National Laboratory, August 1985.

Shelton, R. B., G. Samuels, et al., "Project/Study Ideas for the Ministry of Mines and Energy Resources' Input to the Government of Haiti's Fourth Five-Year Plan," Oak Ridge National Laboratory, September 26, 1985.

Stevenson, G. G. and T. D. Willson, Jean-Poix, C., Medina N., Coal Briquetting in Haiti: A Market and Business Assessment, ORNL/TM-10379, Oak Ridge National Laboratory, June 1987.

C. Sudan

(To be completed)

D. Morocco

Kohler, Daniel, F., J. Peschon, G. Ackerman, Evaluation of the Subproject for Technical Assistance to the Government of Morocco on Energy Planning and Policy Development, U.S. Agency for International Development, June 1983.

Finnell, J., Energy and Agriculture in Morocco: Linkages to the Food System, Final Report, U.S. Agency for International Development, February 22, 1984.

Benchegroun, A., P. Baldwin, et al., Energy Policy Development for Morocco, prepared by Development Sciences, Inc. Cambridge, MA (May 1984).

EnVest Energy Planning Support System: User's Manual, developed by Development Sciences, Inc., (November 1984).

E. General

Energy/Development International, Energy Analysis, Planning and Policy Development in Developing Countries, unpublished manuscript, 1984.

Wilbanks, T. J. and W. Barron, "Institution-Building for Energy Planning," in Energy Planning, ed. T. Beresovski, UNESCO, Paris, 1986.

II. TECHNICAL ASSISTANCE TO AID OFFICES

A. Energy program planning

Bjornstad, D. J., and D. A. Trumble, "Oil Imports and the Foreign Debt of Developing African Nations," presented at the International Association of Energy Economists 1986 North American Conference, Cambridge, Mass., Nov. 19-21, 1986 (to be published in proceedings).

Finnell, J., Sri Lanka: Energy and Agriculture, Hagler-Bailly & Company, April 1985.

Jhirad, D. J. and S. Schweitzer, Renewable Energy Applications and Training Project, Project Plan, Office of Energy, U.S. Agency for International Development, July 1985.

Office of Energy, U.S. Agency for International Development, Office of Energy Program Plan: Fiscal Years 1986-1988, Office of Energy, Bureau for Science and Technology, AID, October 1985.

Curlee, T. R., "Forecasting World Oil Prices: The Evolution of Modeling Methodologies and Summary of Recent Forecasts," Mater, Soc. 9(4), 413-42 (1985).

Curlee, T. R., Future World Oil Prices: Modeling Methodologies and Summary of Recent Forecasts, ORNL/TM-9521, Oak Ridge National Laboratory, April 1985.

Hillsman, E. L., "Technology Transfer from Laboratory to Industry in India," draft working paper prepared for the U.S. Agency for International Development, Office of Energy, April 1986.

Hillsman, E. L., "A Review of Power Supply and Demand in the Egyptian Economy," working paper prepared for the U.S. Agency for International Development, Office of Energy, August 1986.

Jones, D. W., "Energy for Development," working paper prepared for the U.S. Agency for International Development, Office of Energy, September 1985.

Jones, D. W., "Energy-Income Relationships in Economic Development," working paper prepared for the U.S. Agency for International Development, Office of Energy, May 1985.

Jones, D. W., "Energy Requirements for Rural Development," working paper prepared for the U.S. Agency for International Development, Office of Energy, July 1985.

Jones, D. W. and G. Samuels, Jr., "Energy Requirements of Development Projects," working paper prepared for the U.S. Agency for International Development, Office of Energy, April 1985.

Jones, D. W., "Urbanization and Energy Use in Economic Development," working paper prepared for the U.S. Agency for International Development, Office of Energy, April 1985.

Perlack, R. D., Oil and Gas Exploration and Development in Oil Importing Developing Countries, ORNL/TM-9769, Oak Ridge National Laboratory, December 1985.

Petrich, C. H., "Multidonor Participation in Planning Household Energy Interventions," working paper, Oak Ridge National Laboratory, February 1987.

Samuels, G., "The Impact of Low Oil Prices on Renewable Energy Technologies," working paper, Oak Ridge National Laboratory, April 1986.

Trumble, D. A. and D. J. Bjornstad, Oil Imports and the Foreign Debt of Developing African Countries, ORNL-6331, Oak Ridge National Laboratory, April 1987.

Vogt, D. P., T. R. Curlee, and R. B. Shelton, Implications of World Oil Market Conditions for Developing Countries, ORNL/TM-9793, Oak Ridge National Laboratory (to be published).

Wilbanks, T. J., et al., "Issues in Transferring U.S. Energy Technologies to Developing Nations," Transactions, American Society of Mechanical Engineers, 86-WA/TS-9, Anaheim, Calif., December 1986.

B. Energy project evaluation

Deverick, B., M. Gellerson, J. P. Stovall, and R. B. Shelton, Rural Electrification in Bangladesh: Management, Engineering, and Financial Assessment, ORNL/TM-10042, Oak Ridge National Laboratory, July 1986.

Jones, D. W., J. P, Stovall, J. G. Ruby, D. R. Younger, C. A. Pryor, "Mid-term Evaluation of USAID SUDAN Energy Planning and Management Project.

Maestas, G., D. W. Jones, G. Samuels, and D. R. Younger, Final Evaluation of USAID Project No. 518-0029/Loan No. 518-W-039, Ecuador, Alternative Energy Sources, ORNL-6361, Oak Ridge National Laboratory, January 1987.

III. PRE-INVESTMENT ANALYSES OF ENERGY OPTIONS

Hill, L. J., R. J. Lichtman, and T. S. Wood, An Analysis of Household Energy Use in Kinshasa, Republic of Zaire: Electricity, Fuelwood, and Kerosene, Oak Ridge National Laboratory, draft, January 1986.

Mercier, J. R., C. H. Petrich, R. J. Calnan, R. A. Cantor, J. M. Lejeune, FANALAMANGA Smallwood Carbonization Feasibility Study, Oak Ridge National Laboratory, December 1986.

Newcombe, K. and C. H. Petrich, Madagascar Energy I Project: Household Energy Planning Program Proposal, Energy Division, Eastern and Southern Africa Projects Department, The World Bank, Washington, D. C., June 1987.

Petrich, C. H., R. A. Cantor, and J. R. Mercier, "Evaluation of a Large-Scale Charcoal Project in Madagascar: Attacking the Deforestation Problem from the Supply Side," in proceedings of the Eighth Annual North American Conference of the International Association of Energy Economists: The Changing World Energy Economy, (Cambridge, Mass., November 19-21, 1986),

IV. TECHNICAL ASSISTANCE RELATED TO KEY ENERGY POLICY ISSUES

A. Power system planning

Beuhring, W., "Generation Planning in Developing Countries using the WASP III Model," presented at the U.S. Agency for Internationsl Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Davitian, H. and R. Bright, "Experience with a Microcomputer-based WASP Model in the U.S.," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Hillsman, E. L., "Power System Planning in Developing Countries: Effects of Spatial and Institutional Structure on Uncertainty," presented at the International Association of Energy Economists Regional Conference on Energy Planning in South and Southeast Asia, Bangkok, Thailand, May 30-June 3, 1986.

Hillsman, E. L., "The Electric Power Research Institute and Utility R&D," woring paper, March 1986.

Hillsman, E. L., "Technology Transfer from Laboratory to Industry in India," draft working paper, April, 1986.

Hillsman, E. L., D. J. Jhirad, and P. Sharafi, "Innovative Approaches to Electric Power Delivery in Developing Countries," working paper prepared for the Asia/Near East Workshop on Energy Conservation and Private Power Generation, Bangkok, Thailand, Sept. 29-Oct. 3, 1986.

Hillsman, E L., et al., "Electricity Pricing and Power System Improvements: AID's Perspective," working paper prepared for the Fourth Latin American Seminar on Electricity Tariffs, Lima, Peru, Nov. 10-15, 1987.

Jhirad, D. J. and J. M. Weingart, "Technological Innovation and International Development Opportunities in the Electric Power Sector," draft working paper, March 1987.

Meier, P., and R. Leigh, "The ISPLAN Model: Application in India and Thailand," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Munasinghe, M., "Integrating Power Planning with Broader Energy Planning Issues: The Sri Lanka Experience," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Samuels, G. and W. F. Barron, "Considerations for Power Systems Planning," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Sathaye, J., "Electricity Demand and the Need for Planning," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

Schramm, G., "Relationships between Demand Forecasting and Generation Planning," presented at the U.S. Agency for International Development Workshop on Power Systems Planning in Developing Countries, Washington, D.C., November 8, 1985.

B. Energy price reform

Hill, L. J., Energy Price Reform in Developing Countries: Issues and Options, ORNL-6391, August 1987.

Hill, L. J., "Implementing Energy Price Reform in Developing Countries", Natural Resources Forum, forthcoming.

Hill, L. J., "Energy Sector Constraints and Commercial Energy Pricing in Developing Countries", in review, World Development.

Krapels, E., "Oil Pricing Policies in Developing Countries: Case Studies," a report to the U.S. Agency for International Development, May, 1985.

Conference proceedings from Bangkok.

C. Household fuels

Hill, L. J., R. J. Lichtman, and T. S. Wood, An Analysis of Household Energy Use in Kinshasa, Republic of Zaire: Electricity, Fuelwood, and Kerosene, Oak Ridge National Laboratory, draft, January 1986.

Mercier, J. R., C. H. Petrich, R. J. Calnan, R. A. Cantor, and J. M. Lejeune, "FANALAMANGA Smallwood Carbonization Feasibility Study," Oak Ridge National Laboratory, December 1986.

Newcombe, K., and C. H. Petrich, Madagascar Energy I Project: Household Energy Planning Program Proposal, Energy Division, Eastern and Southern Africa Projects Department, The World Bank, Washington, D.C., June 1987. 1987.

Perlack, R. D. and G. G. Stevenson, "Coal Briquettes: A Step Towards Reducing Fuelwood Shortages in the Third World," Energy Policy, accepted for publication.

Perlack, R. D., G. G. Stevenson, and R. B. Shelton, Prospects for Coal Briquettes as a Substitute Fuel for Wood and Charcoal in AID-Assisted Countries, ORNL/TM-9770, Oak Ridge National Laboratory, February 1986.

Petrich, C. H., "Multidonor Participation in Planning Household Energy Interventions," working paper, Oak Ridge National Laboratory, February 1987.

Petrich, C. H., R. A. Cantor and J. R. Mercier, "Evaluation of a Large-Scale Charcoal Project in Madagascar: Attacking the Deforestation Problem from the Supply Side," in the proceedings of the Eighth Annual North American Conference of the International Association of Energy Economists: The Changing World Energy Economy, Cambridge, Mass., November 19-21, 1986) Cambridge, Mass., September 1987. (to be published in proceedings).

Sabadell, A., R. B. Shelton, G. Stevenson, and T. Willson, "The Application of Smokeless Briquettes in Developing Countries: The Cases of Haiti and Pakistan," pp. 445-62 in Coal Development Potential in Pakistan: Proceedings of the First Pakistan National Coal Conference, Feb. 22-26, 1986.

Stevenson, G. G. and T. D. Willson, Coal Briquetting in Haiti: A Market and Business Assessment, ORNL/TM, Oak Ridge National Laboratory, to be published.

Stevenson, G. G., and T. D. Willson, Coal Briquetting in Pakistan: A Market and Business Assessment, ORNL-6427 (to be published).

D. Increasing the productivity of energy use

Greene, D. L., P. S. Hu, and A. B. Rose, Transportation Energy Use and Efficiency in Tunisia, ORNL-6066, Oak Ridge National Laboratory, August 1984.

Greene, D. L., N. Meddeb, and J. T. Liu, "Vehicle Stock Modeling of Highway Energy Use: Tunisian and U. S. Applications," Energy Policy, pp. 437-446.

Greene, D. L., P. S. Hu, A. B. Rose, Transportation Energy Use and Efficiency in Tunisia, ORNL-6066, Oak Ridge National Laboratory, Oak Ridge, TN, August 1984.

Greene, D. L., A. A. Jacome, R. Kowalski, P. S. Hu, "Road Transport Energy Conservation in Costa Rica. " forthcoming, Energy.

Greene, D. L., R. Kowalski, and F. Southworth, "The Transportation Sector in Costa Rica and Opportunities for Energy Conservation," a report of the Energy Conservation Services Program, U.S. Agency for International Development, Office of Energy, Washington, D.C., May 1985.

E. Private sector roles

Shelton, R. B. and P. Sullivan, J. J. McSweeny, "Methods for Removing Private Sector Constraints in the Energy Sector," Sept. 1987, ORNL/TM (to be published).

V. ENERGY RESEARCH AND ANALYSIS

A. Energy policy research program

Blitzer, L. R., R. S. Eckhaus, "Modeling Energy-Economy Interactions Small Developing Countries: A Case Study of Sri Lanka", 1985.

Dunkerley, J. and I. Hoch, "Energy for Transport in Developing Countries," Energy Journal, 8(1987):57-72.

Dunkerley, J., The Transition to Commercial Fuels in the Household and Commercial Sectors of Two Indian Cities, Resources for the Future, 1984.

(Project Design/Implementation Guide) Participatory Evaluation of Fuelwood Programs, East-West Center, East-West Resource Systems Institute, Honolulu, Hawaii, May 1984.

Planning Workshop for Participatory Evaluation of Fuel-wood Programs Projects, Lucknow, India, East-West Center, East-West Resource Systems Institute, Honolulu, Hawaii, April 1985.

Evaluation of Policies Influencing Road Transport Fuel Consumption in Developing Countries, prepared by Energy and Environmental Analysis, Inc., Arlington, VA, March 1986.

Economics and Organizational Aspects of Private Tree Farming to Increase Fuelwood Production in Developing Countries, Energy/DevelopmentInternational, April 30, 1986.

Chatterjee, R., Energy Use in Agriculture in Developing Countries - A Systems Approach, International Development and Energy Associates, Inc., 1986.

Krapels, E. N., Fuel for the Engine of Growth: Oil Pricing in Developing Countries, undated.

Meier, P., The Effect of Changing World Energy Prices on the Rate of Economic Growth in Developing Countries, State University of New York/Stony Brook, 1985.

Morse, Richard, C. Tingsabadh, Peoples' Institutions for Forest and Fuelwood Development: A Report on Participatory Fuelwood Evaluations in India and Thailand, East-West Center, East-West Resource Systems Institute, Honolulu, Hawaii March 1987.

Mubayi, V. and K. Thunkrad, Economic and Policy Implications of Expanding Renewable Energy Technologies in Developing Countries, Brookhaven National Laboratory, May 1986.

Rogers, P. and others Framework for the Analysis of Rural Electrification Projects, Harvard University, March 1986.

Teagan, P., Barriers to Expanding Irrigated Agriculture in Sub-Saharan Africa Imposed by Pumping Costs, A. D. Little, Inc., April 1985.

B. Other

Compere, A., W. Griffith, and G. Samuels, "Liquid Fuels Substitution with Vegetable Oils and Alcohols," Oak Ridge National Laboratory, March 1983.

Hill, L. J., "Modeling the Macroeconomy/Energy Economy Relationship in Developing Countries: The Case of Liberia," presented at the First International Sumposium on Microcomputer Applications in Developing Countries, National Academy of Sciences, Columbo, Sri Lanka, November 1984.

Jones, D. W. and C. Kaul, "Location and Agricultural Risk in India," Spatial, Environmental, and Resource Policy in the Developing Countries, eds. M. Chatterjee, P. Nijkamp, T. R. Lakshmana, and C. R. Pathak, Gower, London, 1983.

Jones, D. W. and J. R. Krummel, "Location and the Development of Energy Supplies from Biomass Sources," pp. 79-99 in Geographical Dimensions of Energy, eds. F. J. Calzonetti and B. D. Solomon, D. Reidel Publishing Co., Dordrecht, The Netherlands, 1985.

Jones, D. W., "Mechanisms for Geographical Transmission of Economic Fluctuations," Annals of the Associations of American Geographers, 73(1), pp. 35-50.

Perlack, R. D., "A Microcomputer Model for Evaluating the Economic Prospects of Wood Energy Plantations," presented at the First International Sumposium on Microcomputer Applications in Developing Countries, National Academy of Sciences, Columbo, Sri Lanka, November 1984.

Perlack, R. D., "BIOCUT: A Microcomputer Based Economic Evaluation Model for Wood Energy Plantations," presented at the Operations Research/Management Science Meetings, Los Angeles, April 1986.

Perlack, R. D., A. F. Turhollow, and D. L. Johnson, The Allocation and Apportionment of Joint-Use Costs to Power: A Report on the Assessment of Headwater Benefits Charges, ORNL/TM-9165, Oak Ridge National Laboratory, October 1984.

Perlack, R. D., J. W. Ranney, and S. Das, "An Economic Evaluation of the Competitiveness of Short-Rotation Intensive Culture for Energy," pp. 1245-63 in Energy from Biomass and Wastes IX, ed. D. Klass, Institute of Gas Technology, Chicago, December 1985.

Perlack, R. D., J. W. Ranney, W. F. Barron, J. H. Cushman, and J. L. Trimble, "Short-Rotation Intensive Cultue for the Production of Energy Feedstocks: A Review of Experimental Results and Remaining Obstacles to Commercialization," BIOMASS 9(2), 145-159 (1986).

Perlack, R. D., Biocut: a Microcomputer Based Economic Evaluation Model for Wood Energy Plantations, ORNL/TM-9576, Oak Ridge National Laboratory, September 1985.

Ranney, J. W., "Status and New Developments in the Production of Wood for Energy," presented at the Conference on Increasing Use of Biomass for Energy and Chemicals, The Aspen Institute for Humanistic Studies, Aspen, Colo., July 1982.

Wilbanks, T. J., "Energy Self-Sufficiency as an Issue in Regional and National Development," pp. 22-42 in Energy and Regional Growth, ed. T. R. Lakshmanan, Gower, London, 1983.

Wilbanks, T. J., "Alternative Responses to Oil Import Dependence," pp. 415-28 in Anales, II Simposio Interuniversitario de Energia, Santiago, Chile, vol. II, 1983.

Wilbanks, T. J., et al., "Issues in Transferring U.S. Energy Technologies to Developing Nationa," Transactions, American Society of Mechanical Engineers, 86-WA/TS-9, Anaheim, Calif., December 1986.

Wilbanks, T. J. and R. Lee, "Policy Analysis in Theory and Practice," pp. 273-303 in Regional Consequences of Large-Scale Energy Projects, eds. T. R. Lakshmanan and B. Johansson, North-Holland, Amsterdam, 1985.

VI. ENERGY INSTITUTION-BUILDING

Wilbanks, T. J. and W. Barron, "Institution-Building for Energy Planning," in Energy Planning, ed. T. Buresovski, UNESCO, Paris, 1986.

Wilbanks, T. J., "Lessons from the National Energy Planning Experience in Developing Countries," Energy Journal, to be published.

Pakistan coal conference proceedings.

Energy/Development International, Energy Analysis, Planning, and Policy Development in Developing Countries, unpublished manuscript 1984.

VII. INFORMATION DISSEMINATION AND OUTREACH

Wilbanks, T. J. and S. B. Wright, "Directions for a Decision Support System for the Office of Energy, U.S. Agency for International Development," working paper, Oak Ridge National Laboratory, September 1, 1985.

"Project Control System" software developed by Development Sciences, Inc. for the Office of Energy, U.S. Agency for International Development, 1986.

APPENDIX K

LIST OF PEOPLE INTERVIEWED

APPENDIX K

LIST OF PEOPLE INTERVIEWED

US AID Washington

Jack Vanderryn
James Sullivan
Alberto Sabadell
David Jhirad
Pamela Baldwin (History plus Sri Lanka)
William Barron
James Hester
Robert Ichord
Robert Archer

World Bank

Ken Newcombe
Gunter Schramm
Willem Floor
Ernesto Terrado
Matthew Mendis

Inter-American Development Bank

Gustavo Calderon

Hagler, Bailly

Henri Claude Bailly
Alan Streicher
Gerald Allan Schwinn
H. Max Lopp
Jeffry Erickson
Barry G. Tunnah
L. Robert Kowalski
Bruce Exstrum
Jack J. Fritz
Pirooz M. Sharafi

Oak Ridge National Laboratory

T.J. Wilbanks
S.B. Wright
D.W. Jones
C.H. Petrich
D.B. Waddle
R.B. Shelton
A.E. Ekkebus
L.J. Hill
E.L. Hillsman
R.D. Perlack
M.A. Brown
S. Dale
D.M. Eissenberg
S.L. Purucker
J.H. Reed
G. Samuels
G.G. Stevenson
J.P. Stovall
P. Sullivan
P.A. Gnadt
S.F. Rayner

In Egypt (by Dana Younger)

AID Cairo

Lawrence Ervin (Info on Philippines from prior assignment)
Sherif Arif
Charles Richter
Vivikka Molldrem
John Hunt

Hagler, Bailly

John Stafurik
Suzanne Leonard
Robert Gordon

In Costa Rica (by Roger LeGassie)

AID San Jose

Heriberto Rodriguez

Government of Costa Rica

Ana Lorena Leon
Antony Araya Jacome
Ileana Gonzalez
Rodrigo Munguia
Jeraldo Monge
Jorge Blanco Roldan

Private Sector

William Morales
Jorge Arturo Castro
Franklin Montero
Jorge Gonzalez
Edgar Castro Diaz

In Dominican Republic (by Roger LeGassie)

USAID

William Smith
Fernando Perdomo

Government of D.R.

Oscar Lamarche
Carlos Sanchez

In Guatemala (by Roger LeGassie)

USAID

Roberto Figueroa
Keith Kline
Karl Duisberg (by telephone with R. Chronowski)

Other

James D. Lay
Luis Enrique Chinchilla Aquino

In Pakistan (by R. Chronowski)

AID

James Bever
Anjun Ahmad
Syed Raza Husain
Masood A. Malik
Terence T. D'Souza
Charles Bliss

Hagler, Bailly

Vaqar Zakaria
John Armstrong
Najib Murtaza

ENERCON

Dr. Sabir Mahmood

Mathtech, Inc.

James D. Westfield
Enver Masud
Mujahid Iqbal

Energy Wing (GOP) Planning Ministry

Ashfaq Mahmud

Other Public and Private Sector

Akram Kahn	Ministry Power
Najama Anwar Raja	Regional Commissioner
Major G.R. Shaukat	Former Security Officer
Zulfiqar Haider Raja	Prime Minister's Office National TV Company
Ahmad Ghamarian	Institute for International Education
Steven Ebbin	Institute for International Education
Ghulami Sikander	Investment Promotion Services

Morocco (In Washington)

AID

Stephen Klein

Haiti

AID (in Washington by telephone)

Clarence Koi

Other Washington

International Institute for Energy Conservation

Deborah Bleviss

Department of Commerce

Les Garden

Export Council for Renewable Energy

Scott Sklar

Organization of American States

Wayne Park

Trade and Development Program

Jack Williamson

Information was also gathered by team members or member firms on overseas trip not charged to the EPDAC evaluation contract. Inputs were obtained from various sources in:

Jamaica
Bolivia
Thailand
the Philippines

APPENDIX L

ECSP ANNOUNCEMENT CABLE RESPONSES

APPENDIX L

ECSP ANNOUNCEMENT CABLE RESPONSES

Memorandum

TO: Robert Chronowski
cc: Alberto Sabadell, Robert Grimshaw, S&T/EY

FROM: Jeff Erickson JE EAC

SUBJECT: Responses to the ECSP cable

DATE: February 5, 1988

Attached are copies of all the cables received in response to the ECSP cable. I have also enclosed a copy of a summary I prepared of these cables and the actions taken to date. The following table summarizes the types of responses represented by these cables.

Region	Total	Need for ECSP Help		
		Yes	Maybe	No
Africa	7	6		1
Asia & Near East	6	3	2	1
Latin America and Caribbean	5	3	1	1
Total	18	12	3	3

In addition to these positive responses to the cable, ECSP has continuing programs in several countries that are not represented in the numbers above (Costa Rica, Dominican Republic, Morocco, India).

COMPILATION OF CABLES RECEIVED IN RESPONSE TO THE ANNOUNCEMENT OF THE RENEWAL OF THE ENERGY CONSERVATION SERVICES PROGRAM

Bolivia: Interest exists in a variety of areas particularly as activities relate to the conservation of hydrocarbons in transportation, and electricity in industry, especially (1) on-site technical assistance; (2) training; (3) support services for financing and implementation of conservation projects; and (4) information development and dissemination. 9/11/87, 9/24, 9/30, 10/21.
Action: Trip undertaken in January 1988.

Djibouti: Expressed interest in receiving S&T/EY support for three projects: (1) Technical-economical feasibility study of energy recovery at the power station of Djibouti; (2) Technical-economical feasibility study on sea water use for the cooling of the power station of Djibouti; (3) Examination of Djibouti's various ice production installations followed by a proposal for energy improvements. This work includes, also, the training of refrigeration specialists. 9/15/87 and 11/4/87
Action: Discussions planned, stopover trip a possibility.

Ecuador: The mission will contact interested agencies in Ecuador. They would like a Spanish translation of the cable. 8/26/87
Action: Translation prepared.

Egypt: Mission requested ECSP services to complete the analysis of the Energy Conservation and Efficiency Project. 11/9/87
Action: An ECSP team was sent in late-November.

El Salvador: The mission sees no immediate needs for ECSP activities. 9/2/87

Gambia: May need help in relation to their privatization efforts. ECSP could help determine the parameters of performance that the utility should be held to under the privatization effort. ECSP could provide assistance with : (1) an energy conservation assessment and plan for the energy sector; (2) an energy conservation policy analysis; (3) an energy conservation program with project design and evaluation; and (4) training for managerial and technical personnel. 10/2/87
Action: Response cable sent 1/20/88.

Honduras: the Honduran Power Company has indicated a general interested in receiving assistance and will respond with details later. 9/11/87
Action: Two trips taken to discuss possibilities, 11/87 and 1/88.

Jordan: Requested one short term (approximately 6 months) technical assistance advisory services for the industrial sector to: (1) assist in preparing energy conservation plans in the industrial sector; (2) assist and advise in coordinating technical, financial, and promotional efforts to identify and implement energy conservation measures; (3) advise on conservation policy and legislation; (4) identify and assist in energy conservation studies; (5) provide guidance on economic matters. 10/15/87
Action: Barry Tunnah performed an assessment of needs in January 1988.

Lesotho: Complete government control of the utility and small industrial/manufacturing sector produces little opportunity to use ECSP at present. 8/17/87
Action: None.

Mali: Mission believes ECSP could tie into its program that encourages government bureaucrats to retire early and invest in the private sector. Possibilities include (1) substitution of evaporative coolers for compression coolers; (2) Energy efficient buildings; (3) Alternative fuels evaluation. Mission has no funds. 11/6/87
Action: Discussions underway.

Nepal: The mission does not anticipate a buy-in at this time since it is not involved in major energy activities. 9/2/87
Action: None.

Niger: Mission will continue to rely on the Energy Initiatives for Africa project, however they will request one or two person months technical assistance next calendar year to lead further assessment activities. 9/12/87
Action: Draft cables prepared 12/16/87 and 2/3/88, discussion underway.

Peru: Needs help with loss analysis handbook.
Action: Response cable prepared and sent.

Philippines: May want to use ECSP under its TTEM project. It is too soon to tell.
Action: None.

ROCAP: They are interested in staying informed on the ECSP assistance being provided to Costa Rica and are available to assist with the proposed private power workshop. 9/8/87
Action: Discussions underway.

Sudan: The mission announced that it is expected that the Government of Sudan Ministry of Energy and Mining, the National Energy Administration, and the National Electricity corporation will need some assistance for some time to come in many of the areas covered by ECSP. They are being made aware of the ECSP program. 8/31/87
Action: Wait.

Thailand: The mission rephrased the cable and transmitted it to the Minister of the Ministry of Science, Technology, and Energy with an indication of their willingness to cooperate. 9/8/87
Action: Wait.

Uganda: Government of Uganda would be interested in the areas of (1) research and development; (2) training; (3) energy conservation program, project design, and evaluation; and (4) information development and dissemination. 9/1/87
Action: To be discussed with Africa Bureau.

Yemen: The mission reports that it is possible that USAID's current and proposed cooperation with private sector and ministry of oil may identify opportunities for use of ECSP. They would like to receive ECSP's audiovisual and educational materials. 8/17/87
Action: Materials being prepared.

Saiyadah
Schweitzer

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Department of State

INCOMING TELEGRAM

PAGE 01 AMMAN 06781 00 OF 02 2220492 8987 105554 A10870
ACTION AID-00

ACTION OFFICE ANTR-06
INFO SCOP-01 ANPO-05 GCAH-02 SIRP-01 SECS-01 PMAD-01 SC-01
ANHS-01 PSC-01 GCCH-02 STAG-02 [illegible] [illegible]
ANHE-03 RELO-01 PRE-06 [illegible]

INFO LOG-00 COPY-01 CIAE-00 IRM-00 [illegible] NEA-01 [illegible]
[illegible] 287452 2220517 [illegible]

R 221313Z JUL 87
FM AMEMBASSY AMMAN
TO SECSTATE WASHDC 2782

UNCLAS AMMAN 06781

AIDAC

FOR: ANE/TR/ENR, ROBERT ARCHOR

E.O. 12356: N/A
SUBJECT: ROBERT ICHORD'S VISIT TO JORDAN, DISCUSSIONS AND RECOMMENDATIONS.

REF: ISLAMABAD 15859

DURING THE VISIT OF MR. ICHORD TO JORDAN, JULY 3 AND 4 HE MET WITH THE JORDANIAN ENERGY OFFICIALS. TOPICS OF DISCUSSIONS ARE SUMMARIZED BELOW. EACH TOPIC IS FOLLOWED BY ACTIONS WHICH HE RECOMMENDED TO BE TAKEN BY ANE/TR/ENR. TOPICS AND RECOMMENDATIONS ARE AS FOLLOWS

A. ENERGY POLICY AND PLANNING: JORDAN ENERGY SECTOR IS RELATIVELY WELL MANAGED. HOWEVER, GOJ IS SEEKING TO INCREASE ENERGY EFFICIENCY BY DEVELOPING INDIGENOUS ENERGY RESOURCES. AID CAN CONTINUE TO PLAY A KEY ROLE IN ENERGY POLICY THRU THE UPCOMING ENERGY PLANNING STUDY TO BE CONDUCTED BY HAGLER, BAILLY/BECHTEL. THE STUDY SHOULD 1) CONSIDER THE POTENTIAL FOR DEVELOPING OIL SHALE AND WIND UNDER VARIOUS OIL PRICE ASSUMPTIONS, B) INCORPORATING SHADOW PRICES IN COMPARING IMPORTED AND INDIGENOUS SOURCES, C) ANTICIPATING POSSIBLE SCENARIOS RESULTING FROM THE NEW GAS DISCOVERY, D) ESTIMATING THE POTENTIAL IMPACTS OF PRICE RESTRUCTURING, LOAD MANAGEMENT MEASURES AND ENERGY CONSERVATION PROGRAM ON DEMAND FOR ELECTRICITY.

ACTION: TO BE TAKEN BY ANE/TR/ENR:

- (1) PROVIDE INFORMATION ON AVAILABLE ENERGY PLANNING SOFTWARE FOR PERSONAL COMPUTER.
- (2) CONTINUE TRAINING OF JORDANIAN ON ENERGY PLANNING AT UNIV. OF PENN.

- (3) DISCUSS ENERGY POLICY AND METHODOLOGY ISSUES WITH HB AND NEW WORLD BANK ENERGY DIVISION CHIEF FOR JORDAN

- (4) CONSULT WITH UNDP/WORLD BANK CONCERNING JORDANIAN INVOLVEMENT IN REGIONAL ENERGY PLANNING.

B. ENERGY CONSERVATION - THE ENERGY AND ELECTRICITY INFORMATION AND ADVISORY CENTER (EIAC) ESTABLISHED WITH USAID'S ASSISTANCE HAS IDENTIFIED POTENTIAL FOR ENERGY SAVING IN LARGE INDUSTRIES AND COMMERCIAL BUILDINGS. EIAC NEEDS TO ESTABLISH CLOSER RELATIONSHIP WITH JORDANIAN INDUSTRIAL DEVELOPMENT ASSOCIATION AND THE NEW INDUSTRIAL ENGINEERING PROGRAM AT UNIV. OF JORDAN, SUPPORTED BY USAID. GOJ MAY HOST IN EARLY 88 A REGIONAL ENERGY CONSERVATION SEMINAR.

AMMAN 06781 00 OF 02 2220492 8987 105554 A10870
ACTIONS TO BE TAKEN BY ANE/TR/ENR

- (1) SEND MATERIALS ON ENERGY CONSERVATION FOR INDUSTRIAL ENGINEERING PROGRAM AID IS BEGINNING AT THE UNIVERSITY OF JORDAN

(2) CONTINUE TRAINING STAFF AT IVA COURSE AND POSSIBLY AT LAWRENCE BERKELEY LABORATORY ON BUILDINGS ENERGY CONSERVATION

- (3) SEND ADDITIONAL INFO ON BUILDING ENERGY CONSERVATION AND IF POSSIBLE SEND DOE-2 (BUILDING ENERGY ASSESSMENT SOFTWARE) MICRO VERSION.

- (4) TALK TO HB ABOUT ASSESSING POTENTIAL FOR CO-GENERATION AND POTENTIAL SALE TO GRID. (POTENTIAL USE OF MISSION CIP TO SUPPORT PRIVATE SECTOR).

- (5) INVESTIGATE WITH NATIONAL BUREAU OF STANDARDS AND SELECTED U.S. UNIVERSITIES EXPERIENCE IN MATERIALS TESTING AND POSSIBILITY OF TRAINING AND ASSISTANCE TO EIAC IN SETTING UP CENTER FOR COMPARATIVE TESTING OF SOLAR SYSTEMS (POSSIBLE FUNDING OF EQUIPMENT UNDER MISSION CIP).
- (6) TALK TO WORLD BANK ABOUT FUTURE REGIONAL ENERGY CONSERVATION MEETING IN EARLY 1988

(7) EXPLORE WITH ST/EY THE POSSIBILITY OF UTILIZING THE NEW ST/EY CONSERVATION SERVICES CONTRACT TO PROVIDE HEMR WITH ADVISORY SERVICES IN THE FOLLOWING TOPICS: A) ENERGY CONSERVATION FOR THE INDUSTRIAL SECTOR; B) CLIMATIC - ZONING FOR JORDAN, AND C) CONTROL OF DAMPNESS IN BUILDINGS. EXPECTED DURATION OF EACH ADVISORY SERVICES IS SIX MONTHS, AT AN ESTIMATED COST OF APPROX. 50K FOR ACTIVITY (A) AND APPROX. 140K FOR ACTIVITIES (B) PLUS (C). TERMS OF REFERENCE FOR THE THREE ADVISORY SERVICES WILL BE SENT UNDER SEPTEL

C. INDIGENOUS ENERGY DEVELOPMENT: GOJ IS INTERESTED IN THE POTENTIAL FOR NATURAL GAS, OIL SHALE AND WIND DEVELOPMENT. RFP FOR 3-100 KW WIND TURBINES WAS ISSUED ON JULY 13, 87. THE GOVERNMENT CURRENTLY SEES OIL SHALE AND WIND AS AREAS WHERE PRIVATE RISK CAPITAL WOULD BE WELCOMED.

ACTIONS TO BE TAKEN BY ANE/TR/ENR

1) ST/EY BEGIN OIL SHALE PREFEASIBILITY STUDY;

2) REVIEW FEB 1987 HEMR WIND REPORT AND THE RFP; (A COPY OF THE REPORT WAS HANDED TO ICHORD, COPY OF THE RFP WILL BE POUCHED SOON).

3) DISCUSS POTENTIAL DOE/TOP FUNDING OF WIND FARM ASSESSMENT;

4) DISCUSS WITH WORLD BANK THEIR VIEWS ON NEW GAS FINDINGS. (DRAFT:FSALAHI, APPR:RJOHNSON)
HOEKER

22 July 87

Jordan

ECST Needs

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INCOMING TELEGRAM

PAGE 01 SANAA 06046 1706462 9632 013215 AID1967

ACTION AID-00

ACTION OFFICE STEY-02

INFO GCAN-02 AMAD-01 GC-01 PSC-03 ANTP-06 PPR-01 SAST-01
STEN-01 ES-01 AHME-03 RELO-01 PRE-06 029 A0

INFO LOG-00 CIAE-00 EB-00 DODE-00 NEA-04 004 W

---------- 152344 170647Z /38

R 170645Z AUG 87
FM AMEMBASSY SANAA
TO SECSTATE WASHDC 5869

Shirley Toth

UNCLAS SANAA 06046

Copy to A. Strazz
H.
8/18/8

AIDAC FOR ST/EY

E.O. 12356: N/A
SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

1. IT IS POSSIBLE THAT USAID'S CURRENT AND PROPOSED COOPERATION WITH PRIVATE SECTOR AND MINISTRY OF OIL MAY IDENTIFY OPPORTUNITIES FOR USE OF ECSP. WE WILL CERTAINLY CONTACT ST/EY WHEN SERVICES ARE NEEDED.

Do we know wh

2. REFTEL PARA 6H REFERS TO AUDIOVISUAL AND EDUCATIONAL MATERIALS THAT WOULD BE HELPFUL TO USAID IN INCREASING THE PRIVATE SECTOR'S APPRECIATION OF ENERGY-CONSERVATION BENEFITS. WHEN THESE MATERIALS BECOME AVAILABLE, PLEASE POUCH THEM TO R.E. MITCHELL.
GDO. KATTOUF

Several Missions have requested "materials". Propose actio

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INCOMING TELEGRAM

PAGE 01 LIMA 09904 2517532 3228 018577 AID9115
ACTION AID-00

ACTION OFFICE SCE-00
INFO AALA-01 LMSA-02 LADR-02 AMAD-01 SAST-01 STEM-01 PELO-01
012 -0

INFO LOG-00 ARA-00 000 W

R 251756Z AUG 87
FM AMEMBASSY LIMA
TO SECSTATE WASHDC 2038

UNCLAS LIMA 09904

AIDAC

FOR: S&T/EY/AID/W ALBERTO SABADELL

E.O. 12356: N/A
SUBJECT: STUDY TO IMPROVE THE EFFICIENCY OF ELECTRICAL
- UTILITIES THROUGH THE REDUCTION OF LOSSES IN
- DISTRIBUTION SYSTEMS

REF: A. SABADELL'S LETTER OF 6/09/87

MISSION HAS CONTACTED ELECTROLIMA AND ELECTROPERU TO ASCERTAIN THEIR INTEREST FOR PARTICIPATING IN THE DEVELOPMENT OF THE LOSS ANALYSIS HANDBOOK AND ASSOCIATED PROGRAM. ELECTROLIMA HAS RESPONDED POSITIVELY AND OFFERED ITS FULL COOPERATION FOR THE JOINT DEVELOPMENT OF THE STUDY. ELECTROLIMA IS THE UTILITY COMPANY RESPONSIBLE FOR ELECTRICAL GENERATION AND DISTRIBUTION IN THE CITY OF LIMA AND SERVES APPROXIMATELY 950,000 USERS. WITH THE UNDERSTANDING THAT ALL COSTS ASSOCIATED WITH THE PROGRAM WILL BE COVERED BY AID/W, MISSION RECOMMENDS FAVORABLE CONSIDERATION BY S&T/EY. LANGAN

Copy to D. Jones 9/9

25 Aug 87

item loss reduction work for S&T/EY

Return to AID

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Department of State

INCOMING TELEGRAM

PAGE 01 QUITO 12030 262040Z 0119 019319 AID00-4

ACTION AID-00

ACTION OFFICE STEN-01

INFO AALA-01 LASA-02 LADP-04 LADR-03 ARA-01 SAST-01 STEN-01
RELO-01 /016 A0

INFO LOG-00 CIAE-00 EB-00 DODE-00 ARA-00 /000 W

---004629 262105Z /38

R 262041Z AUG 87
FM AMEMBASSY QUITO
TO SECSTATE WASHDC 1186

UNCLAS QUITO 12030

AIDAC

FOR S&T/EY

E.O 12356: N/A
SUBJECT: CONTRACT FOR THE ENERGY CONSERVATION SERVICES PROGRAM CECSP

REF: STATE 249305

1. MISSION APPRECIATES INFORMATION IN REFTEL. INTERESTED AGENCIES IN ECUADOR WILL BE CONTACTED.

2. HOWEVER, IT WOULD BE USEFUL TO HAVE A SPANISH TRANSLATION OF THE ECSP. PLEASE SEND IT IF AVAILABLE.
RONDON

Copy to A. Strecker/H-B 9/18/87

Re ECSP Cable Need Spanish.

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Shill For Alice to

Department of State

INCOMING TELEGRAM

PAGE 01 KHARTO 10512 111314Z 9612 021355 AID3600
ACTION AID-00

ACTION OFFICE STEY-02
INFO AAAF-03 AFEA-03 AFTP-05 SAST-01 TOP-05 RELO-01
/020 A1 X31

INFO LOG-00 AF-00 [illegible] DODE 00 [illegible]
[illegible] 246364 111602Z [illegible]

R 311319Z AUG 87
FM AMEMBASSY KHARTOUM
TO SECSTATE WASHDC 2240
INFO AMEMBASSY NAIROBI

UNCLAS KHARTOUM 10512

AIDAC

NAIROBI FOR REDSO/ESA

E.O.: 12356:N/A
SUBJECT: S&T/EY ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 2493-09

1. MISSION APPRECIATES RECEIVING ADVICE OF THE FIVE YEAR EXTENSION OF THE AVAILABILITY OF TECHNICAL ASSISTANCE THROUGH THE CENTRALLY FUNDED ECSP.

2. MANY OF THE PROPOSED AND ON-GOING ACTIVITIES OF THE ECSP ARE NOW BEING SUPPORTED BY THE MISSION IN THE ON-GOING ENERGY PLANNING AND MANAGEMENT (EPM) PROJECT WITH EPM SCHEDULED FOR COMPLETION IN APRIL 1988. IT IS EXPECTED THAT THE GOS MINISTRY OF ENERGY AND MINING, THE NATIONAL ENERGY ADMINISTRATION AND THE NATIONAL ELECTRICITY CORPORATION WILL NEED SOME ASSISTANCE FOR SOME TIME TO COME IN MANY OF THE AREAS COVERED BY ECSP.

Lets find a way to connect before April 88

THESE AGENCIES WILL BE MADE AWARE OF THE ECSP EXTENSION AND THE POSSIBLE AREAS OF SUPPORT WHICH MAY BE AVAILABLE. SMITH

Copy to A. Sloeizer (HB) 9/8/87

31 Aug 87

Sudan

ECSP cable response

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INCOMING TELEGRAM

PAGE 01 KAMPAL 03287 021232Z 2017 023768 AID5663

ACTION AID-00

ACTION OFFICE STEV-02

INFO AAAF-03 AFEA-03 SEOP-01 FPA-02 SEPP-01 IG-01 IGLC-01
PPMF-01 PSC-03 SAST-01 IT-06 STEN-01 ES-01 RELO-01
PRE-06 /034 A1 GB02

INFO LOG-00 AF-00 CIAE-00 EB-00 DCDE-00 /000 W
----------012216 021307Z /38

R 011250Z SEP 87
FM AMEMBASSY KAMPALA
TO SECSTATE ASHDC 7806

UNCLAS KAMPALA 03287

AIDAC

E. O. 12356: N/A
SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

MISSION CONTACTED GOU MINISTRY OF ENERGY REGARDING SUBJECT PROGRAM. GOU WOULD BE INTERESTED IN THE AREAS OF: 1) RESEARCH AND DEVELOPMENT; 2) TRAINING; 3) ENERGY CONSERVATION PROGRAM PROJECT DESIGN AND EVALUATION; AND 4) INFORMATION DEVELOPMENT AND DISSEMINATION. MORRIS

When last contact

Uganda

ECST/Wash

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ACTION COPY Sidorkell

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INCOMING TELEGRAM

PAGE 01 KATHMA 06559 020933Z 1074 023564 AIDE468
ACTION AID-00

ACTION OFFICE STEY-01
INFO FRA-02 SERP-01 IG-01 GC-01 SEOS-02 IGLC-01 PPMF-01
PSC-03 IGEM-02 STPO-01 PPR-01 SAST-01 IT-06 STEN-01
ES-01 027 A4 SB02

INFO LOG-00 CIAE-00 EB-00 DODE-00 NEA-04 .004 W
---------- 001157 020959Z /38

R 020932Z SEP 87
FM AMEMBASSY KATHMANDU
TO SECSTATE WASHDC 4049

UNCLAS KATHMANDU 06559

AIDAC

FOR ST/EY

E.O. 12356: N/A
SUBJECT: ANNOUNCEMENT OF A NEW FIVE YEAR CONTRACT FOR THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

1. MISSION DOES NOT ANTICIPATE A BUY-IN AT THIS TIME. USAID/NEPAL IS NOT INVOLVED IN MAJOR ENERGY ACTIVITIES. WORLD BANK/IBRD IS TAKING A LEAD IN THE POWER SECTOR ASSESSMENT/PLANNING AND A REVIEW OF THIS EXERCISE WILL BE HELD WITH GON, AND MOST LIKELY OTHER DONORS, THIS FALL.

2. MISSION WILL KEEP ST/EY APPRISED OF ANY DEVELOPMENTS WITH PARTICULAR ATTENTION TO POSSIBLE BUY-INS.
WEIL

Copy to AS 9/87

Possible Action: find out WB is doing
do we have a role/window?
if no prepare w/ cable
MP

Nepal

No ECSP needs

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ACTION COPY Subtitle

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INCOMING TELEGRAM

PAGE 01 BANGKO 39218 081113Z 7228 025550 AID9847
ACTION AID-00

ACTION OFFICE STEY-02
INFO AMAD-01 ANTR-06 SAST-01 STEN-01 RELO-01 ANEA-02
/014 A0

INFO LOG-00 COPY-01 EAP-00 /001 W
340037 090404Z /10

R 081113Z SEP 87
FM AMEMBASSY BANGKOK
TO SECSTATE WASHDC 7565

UNCLAS BANGKOK 39218

Copy H-B

AIDAC

FOR ALBERTO SABADEIL, ST/EY

E.O. 12356: N/A
SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM

REF: STATE 249309

1. THIS IS TO ADVISE YOU THAT USAID/THAILAND REPHASED REFCABLE AND TRANSMITTED UNDER A COVER LETTER FROM DR. JOHN R. ERIKSSON, MISSION DIRECTOR, TO THE MINISTER OF THE MINISTRY OF SCIENCE, TECHNOLOGY AND ENERGY, INDICATING OUR WILLINGNESS TO COOPERATE WITH THE ROYAL THAI GOVERNMENT SHOULD THEY SO DESIRE TO TAKE ADVANTAGE OF THE PROGRAM.

2. THE LETTER AND ATTACHMENT WAS COPIED TO THE NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT BOARD, THE ELECTRICITY GENERATING AUTHORITY OF THAILAND, THE NATIONAL ENERGY ADMINISTRATION, THE PROVINCIAL ELECTRICITY ADMINISTRATON, THE PETROLEUM AUTHORITY OF THAILAND (PTT), THE PETROLEUM INSTITUTE OF THAILAND, THE METROPOLITAN ELECTRICITY AUTHORITY AND DEPARTMENT OF TECHNICAL AND ECONOMIC COOPERATION.

3. WE WILL ADVISE YOU REGARDING THE RTG'S RESPONSES
BROWN

Thailand Response to CSP-2

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INCOMING TELEGRAM

PAGE 01 LA PAZ 08439 111611Z 4424 028615 AID2575
ACTION AID-00

ACTION OFFICE STEN-02
INFO SEOP-01 FFA-02 SERF-01 LASA-02 LADR-03 IG-01 GC-01
SEOS-02 GCLA-03 IGLC-01 PPMF-01 PSC-03 IGEM-02 STPO-01
PPR-01 SAST-01 IT-06 STEN-01 ES-01 RELO-01 DO-01 PRE-06
/044 A1 X11

INFO LOG-00 CIAE-00 EB-00 DCDE-00 ARA-00 /000 W
157016 111923Z /38

R 111611Z SEP 87
FM AMEMBASSY LA PAZ
TO SECSTATE WASHDC 2282

UNCLAS LA PAZ 08439

AIDAC

E.O. 12356/NA
SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309/01

1. IN RESPONSE TO REFERENCE CABLE, USAID/BOLIVIA TRANSMITS THE FOLLOWING INFORMATION REGARDING GOB INTEREST IN ECSP.

2. BOLIVIA'S MINISTRY OF ENERGY (MOE) IS INTERESTED IN NUMEROUS SERVICES THAT ECSP CAN PROVIDE, PARTICULARLY AS THEY RELATE TO THE CONSERVATION OF HYDROCARBONS IN TRANSPORTATION, AND ELECTRICITY IN INDUSTRY. FOR THESE CONSERVATION ACTIVITIES, THE MOE EXPRESSED INTEREST IN THE FOLLOWING SERVICES MENTIONED IN THE REFERENCE CABLE: 6E. ON-SITE TECHNICAL ASSISTANCE, 6F. TRAINING, 6G. SUPPORT SERVICES FOR FINANCING AND IMPLEMENTATION OF CONSERVATION PROJECTS, AND 6H. INFORMATION DEVELOPMENT AND DISSEMINATION. THE SERVICES PROVIDED UNDER ECSP WOULD BE DIRECTED PRIMARILY AT THE PRIVATE SECTOR, BUT WOULD INCLUDE PUBLIC SECTOR PARTICIPATION.

3. ACCORDING TO THE MOE, CONSERVATION OF HYDROCARBONS IN TRANSPORTATION IS NECESSARY BECAUSE ITS CURRENT CONSUMPTION RATE OF GAS RESOURCES IS VERY HIGH. ECSP SERVICES WOULD FOCUS ON MAKING TRANSPORTATION MORE ENERGY-EFFICIENT IN BOLIVIA. IN ADDITION, THE MOE IS INTERESTED IN TA TO AID PRIVATE BOLIVIAN INDUSTRIES (TEXTILES, FOODSTUFFS, CEMENT, ETC.) IN MORE EFFICIENT USE OF HYDROCARBON RESOURCES. WITH RESPECT TO CONSERVATION OF ELECTRICITY, THE MOE IS INTERESTED IN HIGHER ENERGY EFFICIENCY MAINLY FOR PRIVATE INDUSTRIES (SMALL STEEL MILLS, MINES, TEXTILES, FOODSTUFFS, ETC.). IN ADDITION, THE MOE IS INTERESTED IN A TA TO INCREASE THE EFFICIENCY OF TRANSMISSION IN BOLIVIA'S ELECTRICITY GRID.

4. GIVEN THE FACT THAT THE GOB AND USAID HAVE NO IMMEDIATELY AVAILABLE SOURCES OF FUNDING FOR ECSP SERVICES WE REQUEST INFORMATION ON THE MEANS OF FINANCING THESE SERVICES, AS WELL AS POSSIBLE FOLLOW-ON ACTIVITIES IN THE ABSENCE OF LOCAL FUNDING. F/I IDFD AND ICB ARE SUPPORTING THE GOB IN ENERGY RELATED ACTIVITIES.

5. IF YOU HAVE ANY FURTHER QUESTIONS REGARDING THIS CABLE, PLEASE CONTACT THE MISSION ENERGY OFFICER, ALFRED NAKATSUMA. ROWELL

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Veep

11 Sept 87

Bolivia

ECSP Need

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TO SECSTATE WASHDC 4319

UNCLAS TEGUCIGALPA 15421

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SEP 18 1987

HAGLER, BAILLY & CO.

AIDAC

FOR A. SABADELL, ST/EY

E.O. 12356: N/A

SUBJECT: ANNOUNCEMENT OF A NEW FIVE YEAR CONTRACT FOR THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

1. THIS IS AN INTERIM RESPONSE TO REFTEL.

2. WE HAVE CONTACTED THE HONDURAN POWER COMPANY (ENEE) REGARDING ITS INTEREST IN RECEIVING ASSISTANCE UNDER THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP). ENEE INDICATED THEY HAVE GENERAL INTEREST AND THAT THEY WILL RESPOND FORMALLY REGARDING ECSP. WE WILL COMMUNICATE ENEE'S RESPONSE TO ST/EY WHEN WE RECEIVE IT.

BRIGGS

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ACTION OFFICE STEN-02
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TO SECSTATE WASHDC 2549
AMEMBASSY ABIDJAN

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AIDAC

E.O. 12356: N/A

SUBJECT: ENERGY CONSERVATION SEVICES PROGRAM (ECSP)

REF: STATE 249309

1. MISSION HAS USED THE SERVICES OF HAGLER, BAILLY AND CO. IN THE PAST IN COLLABORATION WITH THE ENERGY INITIATIVES FOR AFRICA (EIA) PROJECT BASED IN ABIDJAN. BOTH ARE STILL INVOLVED IN NIGER AND OTHER WEST AFRICAN COUNTRIES THROUGH THE ECOWAS ORGANIZATION. WE WILL CONTINUE TO RELY ON THE EIA PROJECT TO COORDINATE ONGOING AND OTHER ACTIVITIES MENTIONED IN REFTEL IN NIGER.

2. FYI: FIVE PEOPLE WERE TRAINED IN CONDUCTING ENERGY ASSESSMENTS VIA PARA 1 MECHANISM. MISSION WILL REQUEST ONE TO TWO PERSON MONTHS TECHNICAL ASSISTANCE NEXT CY TO LEAD FURTHER ASSESSMENT ACTIVITIES ONCE A PROGRAM IS DEFINED. BOGOSIAN

14 Sept 87

HOT

NIGER

ECSP Needs

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PAGE 01 DJIBOU 02928 151322Z 9115 090116 AID4903 DJIBOU 02928 151322Z 9115 030

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AMEMBASSY NAIROBI

UNCLAS DJIBOUTI 2928

AIDAC

AID/W FOR ST/EY

NAIROBI FOR REDSO/ESA/SABADELL

E.O. 12356: N/A
SUBJ: ANNOUNCEMENT OF A NEW FIVE YEAR CONTRACT FOR THE ENERGY

REF: STATE 249309

1. THE GROD WELCOMES ANNOUNCEMENT MADE REFTEL.

2. WITHIN THE COMING YEAR AID'S BILATERAL ENERGY INITIATIVES PROJECT WILL BE COMING TO AN END, HOWEVER, WE ANTICIPATE THAT THE GROD WILL UTILIZE A SIZEABLE PORTION OF THE FUNDS DERIVING FROM THE ANTICIPATED NONPROJECT ASSISTANCE CASH GRANT TO STRENGTHEN ITS NATIONAL ENERGY SECTOR INITIATIVES.

3. THE GROD IS, THEREFORE, INTERESTED IN CONTINUING ITS RELATIONSHIP WITH THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP). IN 1985, ECSP UNDERTOOK IN DJIBOUTI AN EVALUATION OF ENERGY CONSERVATION EFFORTS. THIS EVALUATION CONFIRMED THE ORIENTATION TAKEN BY THE USAID/VITA ENERGY INITIATIVES PROJECT WITH RESPECT TO THE STRENGTHENING OF ACTIONS RELATED TO DJIBOUTI'S ENERGY SECTOR.

3. IN 1987, WITH USAID AND UNDP PARTICIPATION, DJIBOUTI UNDERTOOK AN EXTENSIVE STUDY OF THE CURRENT ENERGY SITATION. THIS RESULTED IN THE DEVELOPMENT OF A MODEL OF ITS SHORT AND MEDIUM-TERM EVOLUTION. THIS WORK LED TO THE IDENTIFICATION OF 21 PRIORITY PROJECTS DIRECTED TOWARD ENERGY DEVELOPMENT AND CONSERVATION

4. AMONG THE PROJECTS PROPOSED, THREE DIRECTLY CONCERN ACTIVITIES PROPOSED IN THE ECSP PROGRAM CONTINUATION. THAT IS:

- TECHNICAL-ECONOMICAL FEASIBILITY STUDY OF ENERGY RECOVERY AT THE POWER STATION OF DJIBOUTI;
- TECHNICAL-ECONOMICAL FEASIBILITY STUDY ON SEA WATER USE FOR THE COOLING OF THE POWER STATION OF DJIBOUTI;
- EXAMINATIONOF DJIBOUTI'S VARIOUS ICE PRODUCTION INSTALLATIONS FOLLOWED BY A PROPOSAL FOR ENERGY IMPROVEMENTS. THIS WORK INCLUDES, ALSO, THE TRAINING OF REFRIGERATION SPECIALISTS

5. EACH OF THE ABOVE PROJECTS FORMS THE SUBJECT OF A DETAILED REPORT GIVING PROJECT OBJECTIVES AND MATERIAL AND FINANCIAL MEANS TO BE USED. RESUMES ON THESE THREE PROJECTS ARE BEING TRANSMITTED TO ST/EY/SABADELL IN THE NEXT POUCH.

MCATEER

Copy to H/B

Prepare response

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PAGE 01 BANJUL 02720 021229Z 6790 041876 AID0169
ACTION AID-00

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FM AMEMBASSY BANJUL
TO SECSTATE WASHDC 5451

UNCLAS BANJUL 02720

AIDAC

E.O. 12356: N/A
SUBJECT: THE NEW ENERGY CONSERVATION SERVICES PROGRAM (ECSP) CONTRACT

REF: STATE 249309

1. CURRENTLY WE ARE NOT INVOLVED IN THE GAMBIA'S ENERGY SECTOR AND GIVEN OUR CONCENTRATION IN AGRICULTURE AND ECONOMIC POLICY REFORM, OUR LIMITED STAFF RESOURCES AND THE ONGOING ACTIVITIES OF OTHER DONORS IN THE ENERGY SECTOR, IT IS UNLIKELY THAT THERE WILL BE A SIGNIFICANT OPPORTUNITY FOR US TO PARTICIPATE IN ECSP ACTIVITIES EXCEPT PERHAPS AS RELATED TO OUR PRIVATIZATION EFFORTS.

2. THE TWO DONORS CURRENTLY ACTIVE IN THAT SECTOR ARE THE BRITISH WHO PROVIDE A SIGNIFICANT ANNUAL FUEL GRANT TO THE GAMBIA WITH TECHNICAL ASSISTANCE TO THE PARASTATAL GAMBIA UTILITIES CORPORATION (GUC), AND THE JAPANESE WHO SOLD THE POWER GENERATORS TO THE GUC. THE IBRD IS PREPARED TO PROVIDE SIGNIFICANT FINANCING AS WELL.

3. OUR PRIVATIZATION ACTIVITIES INVOLVE PROVIDING TECHNICAL ASSISTANCE TO THE NATIONAL INVESTMENT BOARD (NIB) SO THAT IT CAN BETTER MONITOR PARASTATAL COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERFORMANCE AGREEMENTS SIGNED BY THE PARASTATALS WITH GOVERNMENT. BECAUSE ONE OF THE FIRST PARASTATALS TO SIGN A PERFORMANCE AGREEMENT WAS THE GAMBIA UTILITIES CORPORATION (GUC), THE NIB BELIEVES THAT THE ECSP COULD PLAY AN IMPORTANT ROLE IN DETERMINING THE PARAMETERS OF PERFORMANCE TO WHICH THE GUC SHOULD BE HELD UNDER SUBSEQUENT AGREEMENTS. SPECIFICALLY THE NIB HAS IDENTIFIED THE FOLLOWING AREAS OF INTEREST UNDER THE ECSP WHICH WOULD BE BENEFICIAL TO THE GUC, THE PRIVATE AND PUBLIC SECTOR, AND THE NIB ITSELF: (A) AN ENERGY CONSERVATION ASSESSMENT AND PLAN FOR THE GUC AND THE ENERGY SECTOR; (B) AN ENERGY CONSERVATION POLICY ANALYSIS; (C) AN ENERGY CONSERVATION PROGRAM WITH PROJECT DESIGN AND EVALUATION; AND (D) TRAINING FOR MANAGERIAL AND TECHNICAL PERSONNEL. NIB STRESSES THAT ITEMS (A) AND (B) WOULD HAVE FIRST PRIORITY ALTHOUGH THEY WOULD PREFER THAT SOME TRAINING COMPONENT BE INCLUDED UNDER EITHER (A) OR (B) TO ENSURE THAT LOCAL PERSONNEL CAN FOLLOW-UP ANY RECOMMENDED ACTIONS.

4. THE MISSION BELIEVES THAT A NATIONAL ENERGY ASSESSMENT UNDER THE SUBJECT PROGRAM SHOULD BE THE FIRST STEP IN THE PROCESS, AND BASED ON ITS RESULTS SPECIFIC ACTIVITIES TO IMPROVE THE ENERGY SECTOR MIGHT BE IDENTIFIED, E.G., PROMOTING PRIVATE INVESTMENT IN POWER GENERATION.

5. BASED ON NIB INTEREST IN PROGRAM, MISSION REQUESTS

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FURTHER INFORMATION CONCERNING ECSP ACTIVITIES NOTED ABOVE. HOROWITZ

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PAGE 01 AMMAN 12509 151325Z 5942 048451 A109865
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FM AMEMBASSY AMMAN
TO SECSTATE WASHDC 4513

UNCLAS AMMAN 12509

AIDAC

FOR S AND T/EY, ALBERTO SABADELL

INFO ANE/TR/ENR, R. ICHORD

E O 12356: N/A
SUBJECT: ENERGY CONSERVATION ADVISOR FOR JORDAN'S
- INDUSTRIAL SECTOR

REF (1) STATE 249303, (2) AMMAN 8701

1. THE MINISTRY OF ENERGY AND MINERAL RESOURCES (MEMR) REQUESTED USAID'S ASSISTANCE TO PROVIDE ONE SHORT TERM (APPROX. 6 MONTHS) TECHNICAL ASSISTANCE ADVISORY SERVICES IN THE FIELD OF ENERGY CONSERVATION FOR JORDAN'S INDUSTRIAL SECTOR.

2. MISSION AND MEMR ARE WILLING TO UTILIZE THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP) AS DESCRIBED IN REFTEL 1, WHICH WAS AWARDED TO HAGLER, BAILLEY AND CO. UTILIZATION OF THIS PROGRAM (ECSP) WAS RECOMMENDED BY DR. ICHORD DURING HIS VISIT TO AMMAN ON JULY 8-9, 1987, SEE PARA B(7) OF REFTEL 2.

3. SCOPE OF WORK FOR THE ENERGY CONSERVATION ADVISOR FOR JORDAN INDUSTRIAL SECTOR IS AS FOLLOWS:

THE ADVISOR UNDER THE GUIDANCE OF MEMR SHALL SPECIFICALLY CARRY OUT, BUT NOT BE LIMITED TO THE FOLLOWING:

A) ASSIST IN THE PREPARATION OF ENERGY CONSERVATION PLANS IN THE INDUSTRIAL SECTOR AND THE SETTING OF ENERGY RELATED NORMS FOR ENERGY USE IN THE SECTOR INVOLVED.
B) ASSIST AND ADVISE IN THE COORDINATION OF TECHNICAL AND FINANCIAL ASSISTANCE AND PROMOTIONAL EFFORTS TO HELP INDIVIDUAL ENTERPRISES, PARTICULARLY THE ENERGY - INTENSIVE ONES, EFFECTIVELY IDENTIFY AND IMPLEMENT ENERGY CONSERVATION MEASURES AND INVESTMENTS.

C) ADVISE ON CONSERVATION POLICY AND LEGISLATION AND PROPOSAL OF MEASURES, INCLUDING INCENTIVE SCHEMES DESIGNED TO ENCOURAGE SMALL AND MEDIUM SCALE INDUSTRIES.

D) IDENTIFY AND ASSIST IN CARRYING OUT ENERGY CONSERVATION STUDIES IN THE SMALL INDUSTRIES.

E) PROVIDE GUIDANCE TO THE MEMR ON ALL ECONOMIC MATTERS RELATED TO ENERGY CONSERVATION.

4) PLEASE ADVISE WITH THE ESTIMATED COST OF THIS SERVICE, AND PROVIDE THE BUDGET COST BREAKDOWN INCLUDING INTERNATIONAL TRAVEL AND PER DIEM TOGETHER WITH THE COST WHICH WILL BE FINANCED FROM THE ENERGY CONSERVATION SERVICES PROGRAM. MEMR COULD BE REQUESTED TO PROVIDE

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THE ADVISOR(S) WITH INLAND TRANSPORT FOR OFFICIAL BUSINESS, OFFICE FACILITIES AND SECRETARIAL SERVICES AS REQUIRED.

5) MISSION REQUESTS THAT RESUME OF NOMINATED ADVISOR BE FORWARDED TO FARID SALAHI IN THE ENGINEERING OFFICE ASAP. (DRAFT: FSALAHI, APPR: LWEISS).
SUDDARTH

AS

Leb discuss

6 months = $[illegible]
1 year = $[illegible]
(less overhead, Texas etc...)

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FM AMEMBASSY MANILA
TO SECSTATE WASHDC 9660

UNCLAS MANILA 33376

AIDAC

E.O. 12356: N/A
SUBJECT: ANNOUNCEMENT OF A NEW FIVE YEAR CONTRACT FOR THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF.: STATE 249309

USAID/PHILIPPINES WELCOMES THE CONTINUATION OF THE ECSP. WE MAY AVAIL OF SERVICES FROM ECSP UNDER OUR TTEM PROJECT, ALTHOUGH IT IS TOO SOON FOR US TO BE SPECIFIC ABOUT POSSIBLE REQUIREMENTS. PLATT

AS
Your copy

16 Oct 87

Philippines

Response to this
as well to ALL others
w/ potential ||

10/21/87

ECSP Cable Response

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PAGE 01 LA PAZ 10168 211416Z 5662 052095 AID4790

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Lets discuss

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AIDAC

E.O. 12356: NA
SUBJECT PROPOSED ACTIVITIES UNDER ENERGY
CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 304647

1. USAID/BOLIVIA IS INTERESTED IN THE THREE-TO-FIVE-DAY TRIP PROPOSED BY ECSP IN REFERENCE CABLE TO DISCUSS PRIORITIES FOR ENERGY ACTIVITIES UNDER THE CHAPARE REGIONAL DEVELOPMENT PROJECT (CRDP). OTHER NATIONAL ISSUES WILL NOT BE INCLUDED IN OUR REQUEST.

2. PLEASE CONTACT NEWLY DESIGNATED USAID ENERGY OFFICER, DAVID HESS TO ARRANGE DETAILS OF TDY.

ROWELL

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PAGE 01 DJIBOU 03406 041251Z 5848 060818 AID6263
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TO SECSTATE WASHDC 7372
AMEMBASSY NAIROBI

UNCLAS DJIBOUT 3406

AIDAC

AID/W FOR S&T/EY

NAIROBI FOR REDSO/ESA

E.O. 12356: N/A
SUBJ: PROPOSED ACTIVITIES UNDER ENERGY CONSERVATION SERVICES (ECSP)

REF: STATE 340972

1. POST CONCURS WITH PROPOSED VISIT OF HAGLER/BAILLY REP ECSP ACTIVITY HOLDS HIGH PRIORITY FOR GRCD.

2. VISIT SHOULD BE UNDERTAKEN WITH KNOWLEDGE THAT AID REPRESENTATION IN DJ BOUTI IS SCHEDULED FOR TERMINATION EARLY 1988 AND THAT ANY POSSIBLE FOLLOW-ON ACTIVITY SHOULD BE SELF-SUSTAINING BY GROD AND/OR PRIVATE SECTOR.

3. FYI DISCUSSIONS HAVE BEEN INITIATED WITH IDCA/TDP RE POSSIBLE PRIVATE SECTOR INTERESTS IN GEOTHERMAL EXPLOITATION AND RENEWABLE ENERGY INITIATIVES.
MCATEER

4 Nov 87

Djibouti

Prepare fact Map with ALL players
Discuss w/ Bill Barron (AFR/TR)
" " / Vitti (Garmer)
" / LDC
Let's discuss
DC 11/6/87

ECSP Visit

Reply?

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FM AMEMBASSY BAMAKO
TO SECSTATE WASHDC 1784

UNCLAS BAMAKO 06518

AIDAC

FOR ST/EY

E.O. 12356: N/A
SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

1. USAID/BAMAKO HAS READ REFTEL WITH INTEREST. ALTHOUGH OUR PROGRAM TO DATE HAS CONCENTRATED MOST HEAVILY ON RURAL AND DOMESTIC SOURCES OF ENERGY, WHILE THE EMPHASIS OF THE ECSP IS ON URBAN AND INDUSTRIAL USES OF ENERGY, WE BELIEVE THIS PROGRAM MIGHT BE OF USE OR TIE INTO TO OUR EARLY RETIREMENT PROGRAM WHICH IS ENCOURAGING GOVERNMENT BUREAUCRATS TO OPT FOR EARLY RETIREMENT AND TO INVEST IN THE PRIVATE SECTOR.

2. SEVERAL POSSIBILITIES FOR MALI COULD INCLUDE: A) SUBSTITUTION OF EXTENSIVELY USED COMPRESSION COOLING TECHNIQUES FOR PUBLIC AND RESIDENTIAL COOLING APPLICATIONS BY EVAPORATIVE SYSTEMS; B) ENERGY EFFICIENT BUILDINGS; C) ALTERNATIVE FUELS EVALUATION TO ANALYSE THE OPTIONS TO USE OF FUELWOOD VS BUTANE, KEROSENE, BRIQUETTES, IMPORTED CHARCOAL.

3. MISSION HAS NO FUNDS TO EXPLORE THESE POSSIBILITIES; HOWEVER IF CENTRAL FUNDS ARE AVAILABLE UNDER THE ECSP WE WOULD BE INTERESTED IN EVALUATING POTENTIAL OF THESE SUGGESTIONS.

4. PLEASE ADVISE.
LEWIS

Energy strategy
VIB (Household fuels?)
TIE

11/6/87

6 Nov 87

MALI

ECSP Needs

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PAGE 01 CAIRO 26164 091205Z 7830 062700 A109830

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TO SECSTATE WASHDC 5479

UNCLAS CAIRO 26164

AIDAC

FOR ALBERTO SABADELL, ST/EY

E.O. 12356: N/A

SUBJECT: ENERGY CONSERVATION SERVICES PROJECT

1. PER EARLIER DISCUSSIONS, MISSION REQUESTS SERVICES OF HAGLER-BAILLY UNDER SUBJECT PROJECT TO COMPLETE ANALYSES FOR USAID'S ENERGY CONSERVATION AND EFFICIENCY PROJECT.

2. PLEASE ADVISE AVAILABILITY OF TEAM AND APPROXIMATE TRAINING. WHEN STAFURIK WAS HERE IN OCTOBER WE ANTICIPATED A MID NOVEMBER ARRIVAL.

WISNER

9 Nov 87

Egypt

Requested SESP w/ ECEP

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TO SECSTATE WASHDC 3512

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AIDAC

FOR: ST/RD AND ST/EY

E.O. 12356: N/A
SUBJECT: MANAGEMENT OF ENERGY AND RESOURCE EFFICIENT CITIES (MEREC) PROJECT AND ENERGY CONSERVATION SERVICES (ECSP) PROGRAM

REF: (A) LA PAZ 10168 (B) STATE 34968 (C) LISBON 010750 (D) STATE 304647

1. FOR ST/RD - PER REF (C), BOLIVIAN PARTICIPANTS IN THE MEREC PORTUGAL CONFERENCE REPORTED IT AS VERY USEFUL AND BENEFICIAL. USAID/BOLIVIA APPRECIATES THE SUPPORT OF THE MEREC PROJECT, ST/RD, TVA, AND THE PORTUGUESE AUTHORITIES INVOLVED. WE DO NOT FORESEE DIRECT USE OF MEREC RESOURCES AT THIS TIME BUT WILL CONTINUE DISCUSSION WITH BOLIVIAN PARTICIPANTS AND WITH ST/RD AND TVA.

2. FOR ST/EY - PER REF (B), USAID/BOLIVIA VERY INTERESTED IN PROPOSED TEAM VISIT. WE WOULD APPRECIATE A BIT MORE BACKGROUND ON TEAM MEMBERS (EG. RELEVANT EXPERIENCE AND SPANISH LANGUAGE CAPABILITY) IM ORDER TO PREPARE MOST USEFUL VISIT POSSIBLE. PER REF (D), THERE WILL BE NO MISSION COSTS FOR THIS MISSION EXCEPT LOGISTICAL SUPPORT IN COCHABAMBA. THE FINAL DATES OF THE VISIT SHOULD BE PROPOSED FOR FINAL MISSION CONCURRENCE ASAP. THANK YOU FOR YOUR INTEREST. ROWELL

copies to:
J. Finnell
A. Stecher

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NOV 23 1987
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TO SECSTATE WASHDC 6654

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AIDAC

FOR ST/EY

E.O. 12356: N/A
SUBJECT: ENERGY CONSERVATION SERVICES PROJECT (ECSP); CONCURRENCE ON HAGLER-BAILLY CONSULTANT TRAVEL

REF: A) STATE 378679, B) STATE 367125

1. USAID CONCURS WITH TRAVEL OF LEONARD, STAFURIK AND STREICHER.

2. PER PARA 3 REF B, USAID IS STILL CONSIDERING ST/EY SUGGESTION OF INTERIM MANAGEMENT AND TECHNICAL ASSISTANCE THROUGH ECSP TO INITIATE PROJECT IMPLEMENTATION. WILL ADVISE AFTER PROJECT IS APPROVED BY PRC AND EXECUTIVE COMMITTEE.

3. PER PARA 4 REF B, ST/EY ASSISTANCE IN PROJECT DESIGN THROUGH ECSP IS APPRECIATED.
WISNER

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Egypt

Concurrence on ECSP Travel

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ROCAP

E.O. 12356: N/A
SUBJECT: ANNOUNCEMENT OF A NEW FIVE YEAR CONTRACT FOR THE ENERGY CONSERVATION SERVICES PROGRAM (ECSP)

REF: STATE 249309

1. ROCAP IS PLEASED TO ACKNOWLEDGE RECEIPT OF SUBJECT ANNOUNCEMENT. WE BELIEVE THAT THE EXTENSION OF THE CONTRACT WITH HAGLER BAILLEY WILL BE USEFUL TO ENERGY CONSERVATION PROGRAMS WORLDWIDE.

2. ROCAP IS INTERESTED IN STAYING INFORMED ON THE ECSP ASSISTANCE BEING PROVIDED TO COSTA RICA. LIKEWISE, WE ARE AVAILABLE TO ASSIST WITH THE PROPOSED PRIVATE POWER WORKSHOP OR TO DISCUSS SPECIFIC ECSP ASSISTANCE TO OTHER COUNTRIES IN THE REGION AS NECESSARY. HOGAN. LAMBERTY

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AS 8 Sep 87

Guatemala/ROCAP

Needs from ECSP

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FOR ST/EY

E.O. 12356

SUBJECT: ENERGY CONSERVATION SERVICES PROGRAM

REF: STATE 240309

USAID/LESOTHO REPORTS THAT ELECTRICAL UTILITY SECTOR IN LESOTHO IS WHOLLY GOVERNMENT OWNED - OPERATED AND IS COMPLETELY DEPENDENT ON RSA TO MEET ITS ENERGY NEEDS. ALSO, INDUSTRIAL/MANUFACTURING SECTOR IS QUITE SMALL, WITH CONSEQUENCE THAT VAST MAJORITY OF LOCAL ENERGY CONSUMPTION IS FROM DOMESTIC, GOVERNMENT AND SERVICE SECTORS. UNDER THESE CIRCUMSTANCES AND SINCE GOVERNMENT CONTROL EXPECTED TO CONTINUE FOR FORESEEABLE FUTURE, MISSION SEES LITTLE OPPORTUNITY AT PRESENT TO USE WHAT APPEARS SO BE AN EXCELLENT PROGRAM. MISSION WILL ADVISE SHOULD SITUATION CHANGE. SNYDER

17 Aug 87 Lesotho No need for ECSP

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copy to AS(HB) 9/8/87

UNCLAS SAN SALVADOR 11502

E.O. 12356 N/A
SUBJECT: THE ENERGY CONSERVATION SERVICES PROGRAM
- (ECSP)

REFERENCE: STATE 249309/01

WITH THE NATIONALIZATION OF MOST OF THE ELECTRICAL DISTRIBUTION COMPANIES AND CONSIDERING ON-GOING ACTIVITIES BEING IMPLEMENTED BY LOS ALAMOS NATIONAL LABORATORY AND THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION IMPROVING EFFICIENCY OF ENERGY USAGE AND PRODUCTIVITY NO IMMEDIATE NEEDS ARE FORSEEN FOR THE ECSP ACTIVITIES IN THE INDUSTRY AND POWER SECTORS IN EL SALVADOR. CORR

El Salvador

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