

**PRIVATE SECTOR ENERGY DEVELOPMENT  
PROGRAM (PSED)**

**MID-PROJECT REPORT**

**SEPTEMBER 1992 - MARCH 1993**

**Submitted by:**

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**To:**

**Office of Energy and Infrastructure  
Bureau for Research and Development  
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## I. INTRODUCTION

The Mid-Project Report provides a summary of PSED Program activities for the eighteen-month period ending March 1993. On September 24, 1991, USAID awarded K&M Engineering and Consulting Corporation (K&M) a three-year contract to act as the prime contractor for the Private Sector Energy Development (PSED) Project of the Office of Energy and Infrastructure (R&D/E&I).

The goal of the PSED Project is to assist in promoting a favorable environment to encourage private ownership, financing, and operation of energy facilities (concentrating on electric power) in developing countries. The four main objectives of the PSED Project are to:

- Induce policy reform and institutional development which fosters private participation in the energy sectors of developing countries;
- Assist in private energy project and infrastructure development, especially in the electric power sector;
- Promote exports of U.S. goods and services; and
- Improve coordination and use of U.S. government resources by private firms seeking to become involved in the energy and power sectors of developing countries.

To achieve these objectives, the PSED Project provides technical and project development assistance to governments of developing countries, utilities, and the private sector.

### CORE ACTIVITIES

- Project Administration and Management
- Country Assessments
- Project Promotion/Information \*
- Special Studies
- Coordination of Feasibility Study Fund
- Study Tours
- Technical Assistance/Expertise Sourcing
- Private Power Reporter & Database
- Seminars/Workshops/Conferences
- Training Courses/Internships
- R&D/E&I Support\*

\* Though not specified in the contract, these two categories were added as a result of the numerous requests for information and assistance.



## II. STATEMENT OF WORK

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### A. ADMINISTRATION, MANAGEMENT AND COORDINATION

K&M/PSED's administrative, managerial and coordination activities in the past 18 months have included:

- Transferring the management of the PSED Project from T. Head & Company, Inc. to K&M
- Providing project and technical support to R&D/E&I, including preparation of the Annual Program Plan
- Establishing and maintaining research tracking systems and databases
- Publishing a private power newsletter
- Responding to requests for information
- Assisting with forecasting and scheduling activities
- Preparing budgets and reports of activities
- Monitoring international private power activities

Transition of management of the PSED Project from T. Head & Company, Inc. to K&M was completed during the first months of the period under review. At the request of R&D/E&I, K&M established an office in Rosslyn, Virginia, in close proximity to R&D/E&I offices, and other A.I.D. projects such as the Energy Efficiency Project (EEP), the Energy Technology Innovation Project (ETIP), and the Energy Training Project (ETP). This arrangement facilitates easy access to Office of Energy and Infrastructure staff for coordination, management, and operation of the project, and also allows K&M/PSED to respond rapidly to the needs of R&D/E&I, and to changing priorities as they arise.

Management and administration of the PSED Project requires extensive reporting of all activities to R&D/E&I. These reports include forecasting activities for the upcoming year, reporting on ongoing and completed activities, preparing budget forecasts and expenditures, submitting weekly, monthly, quarterly and semi-annual reports, contributing to R&D/E&I's Annual Program Plan, and providing other miscellaneous reports such as projected local-country work content.

## II. STATEMENT OF WORK

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**K&M/PSED works very closely with Project Officers of R&D/E&I and with other projects supported by R&D/E&I. The nature of the relationship requires K&M/PSED personnel to collaborate with R&D/E&I in order to manage the project and accomplish PSED's mission in accordance with R&D/E&I's goals. In this way, K&M/PSED is able to respond rapidly to the needs of R&D/E&I and to changing priorities as they arise.**

## II. STATEMENT OF WORK

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### B. PROJECT PROMOTION/INFORMATION

PSED provides information to the general public on a variety of private sector issues and assists R&D/E&I with basic technical support. In particular, PSED acts as an information clearinghouse on behalf of R&D/E&I concerning privatization and private sector issues. As a result, PSED responds to frequent requests for information and publications from private investors and developers, the general public, and from other government agencies. Requests for information cover issues concerning electric power systems, international regulatory policies, international private investment climates, and project feasibility funding.

The Business Focus Series (BFS), published by R&D/E&I, generates a tremendous amount of interest. Requests for copies are filled daily. In the past 18 months, nine BFS publications have been written by various contractors. These are made available to the public through the PSED office. The BFS published to date are:

- 1) Private Power Business Opportunities: Central America
- 2) Private Power Business Opportunities: South America
- 3) Private Power Business Opportunities: Caribbean
- 4) Energy and Environment Market Conditions in Mexico
- 5) Environmental Market Conditions and Business Opportunities in Key Latin American Countries
- 6) ASEAN Electric Power Generation Markets: Opportunities for U.S. Companies
- 7) Sources of Finance for Private Power Projects in Asia
- 8) Cogeneration in Argentina
- 9) Cogeneration in Brazil

## II. STATEMENT OF WORK

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### C. COORDINATION OF PSED FEASIBILITY STUDY FUND

To reduce the risk and cost of private power project development, the Office of Energy and Infrastructure established a Private Sector Energy Development Feasibility Study Fund as part of the PSED Project. The Fund shares with eligible private power developers the cost of pre-feasibility, feasibility and other project development activities for private energy and power projects in A.I.D.-assisted countries. These studies can include analysis of the technical, legal, financial, engineering, environmental and other aspects of private energy and power projects. The Fund is administered by the Feasibility Study Fund (FSF) Administrator under the guidance of the R&D/E&I Project Officer. PSED works closely with the FSF Administrator in activities related to the Fund.

During the past 18 months, the name of the Fund was changed to the Energy Project Development Fund (EPDF). In addition to changing its name, the Fund was expanded to include public sector projects. While PSED continues to provide technical evaluations of applications for private sector projects, the Energy Technology Innovation Project (ETIP) evaluates public sector project applications.

Basic PSED activities in relation to the EPDF include:

- Fund design and administration
- Marketing and promotion
- Technical review of applications

#### Purpose of the Fund

The EPDF is one of PSED's most significant activities, both in terms of impact and level of effort. In many developing countries, publicly-owned utilities are de-capitalized to the extent that they cannot maintain existing facilities, much less finance and build new capacity. As a result, private project development is the only remaining viable option. The Fund helps foster the development of desperately needed electric power and energy projects in USAID-assisted countries by encouraging the participation of the private sector in project development and ownership. In addition, PSED and R&D/E&I help promote the export of U.S. goods and services, and private sector investment overseas by reducing the up-front risk associated with private power development.

In the history of the EPDF Program, forty-one (41) applications have been submitted for consideration, of which fourteen (14) studies have received funding from PSED. The other applications were either rejected or withdrawn by the applicants.

## II. STATEMENT OF WORK

The following table lists the feasibility study fund awards approved through March 31, 1993:

APPLICANT	PROJECT SIZE AND TYPE	COUNTRY	AMOUNT AWARDED
Stone & Webster	210 MW Hydroelectric Station	Turkey	\$ 225,000
Bio-Energy Limited	25 MW Waste-to-Energy Facility	Guatemala	\$ 200,000
Altresco	445 Combined Cycle Facility	Philippines	\$ 200,000
Cogentrix	500 MW Coal-Fired Facility	India	\$ 200,000
Public Power of India	500 MW Coal-Fired Station	India	\$ 200,000
Intercontinental Electric, Inc.	1000 MW Natural Gas-Fired Station	Malaysia	\$ 200,000
AES Transpower	290 MW Coal-Fired Station	Poland	\$ 150,000
Synergics	12 MW Hydroelectric Facility	Dominican Republic	\$ 130,000
Energia Global	22 MW Hydroelectric Facility	Costa Rica	\$ 127,000
Hidroelectrica Aguas Zarcas	12 MW Hydroelectric Facility	Costa Rica	\$ 114,500
International Energy Finance/Hydra Co.	60 MW Coal-Fired Plant	Jamaica	\$ 100,000
Genco Fergo Group	240 MW Steam Turbine Rehabilitation	Dominican Republic	\$ 70,000
HidroAtlantica	12 MW Hydroelectric Facility	Costa Rica	\$ 40,000

## II. STATEMENT OF WORK

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### Fund Design and Administration

K&M/PSED works closely with R&D/E&I and the Fund Contractor to improve the Fund in order to ensure its appropriateness and responsiveness to the needs of power developers and developing countries. As a result of privatization initiatives around the world and K&M/PSED's increasingly sophisticated knowledge of the project development process, the Fund is periodically redesigned to adapt to the rapid changes taking place. In addition, R&D/E&I and K&M/PSED work together to ensure that the Fund remains useful and accessible to potential applicants.

K&M/PSED has drafted an evaluation of existing application procedures and an action plan for the possible revision of the fund award structure. In this type of activity, K&M/PSED works with R&D/E&I, ETIP, the Fund Contractor, and other parties involved in the operation of the EPDF. One such design improvement was the consolidation of the Fund into the EPDF.

Although the Fund Contractor is responsible for the bulk of duties related to the day-to-day administration of the Fund, K&M/PSED has executed many of these tasks. For example, K&M/PSED receives and records proposals for the Fund, maintains files concerning applications and existing projects, and acts as a principal contact source for potential applicants.

In July 1992, K&M/PSED finalized the format for a database containing historical information concerning Fund applications. From this database, K&M/PSED furnishes R&D/E&I with monthly status reports covering all applications and actions taken on each.

### Marketing and Promotion

During the period under review, K&M/PSED actively assisted with marketing and promotional efforts associated with the EPDF. These efforts included three half-day seminars in Washington, D.C., Los Angeles, and Miami during July 1992. In addition to assisting with organizing the seminars and providing general support services, several K&M/PSED staff members gave presentations on private sector energy development opportunities. Following the seminars, PSED responded to numerous requests for material such as the Business Focus Series. K&M/PSED also received an influx of applications for the EPDF as a result of this successful marketing and promotional campaign.

**D. TECHNICAL ASSISTANCE**

As many A.I.D.-assisted countries generally lack the infrastructure, management, policies, and regulations necessary for successful private participation in their energy sectors, the PSED Project provides technical experts to deliver technical assistance. As coordinator of the PSED Project, K&M is responsible for the dispatch of these technical assistance teams.

Activities accomplished or commenced during the past 18 months by K&M/PSED include:

**CORE**

1. Nigeria - Rehabilitation and O&M of Hydroelectric Plant
2. Mongolia - Assessment of Electric System and District Heating Plants
3. USAEP - Planning and Conceptualization
4. Dominican Republic - Privatization Issues
5. Panama - Requirements/Procedures for Private Power
6. India - Technical Assistance
7. NIS - Definitional Mission
8. LAC - World Bank

**BUY-INS**

1. USAID/New Delhi - Development and Management Training
2. USAID/Manila - Cost Structure and Transfer Pricing in the Petroleum Industry
3. USAID/Cairo - Policy Reform and Institutional Development Assessment for Competitive Market Adaptation of the Egyptian Power Sector
4. NIS Task Force - Private Sector Opportunities Structuring for the New Independent States
5. NIS Task Force - Conventional Power/Cogeneration Performance Improvement for the New Independent States

## II. STATEMENT OF WORK

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1. Nigeria - Rehabilitation and O&M of Hydroelectric Plant  
Approximate cost: \$35,000

In response to a request from the World Bank, the Office of Energy and Infrastructure, through K&M/PSED, provided the Nigeria Electric Power Authority (NEPA) with legal assistance for the rehabilitation and long-term operation and maintenance of the Kainji Hydro Power Plant by a private contractor. The rehabilitation, operation, and maintenance are to be financed by the World Bank. One of the objectives of this procedure is to demonstrate to NEPA the competence of the private sector in providing reliable service to the energy sectors of developing countries.

Coordination of this project between the parties consumed a great deal of time. K&M/PSED provided a lawyer to join the World Bank Task Force to travel to Nigeria to interview the Ministry of Energy and to meet with the local utility from March 14-22, 1992. This project was subsequently discontinued pending the resolution of political issues.

2. Mongolia - Assessment of Electric System and District Heating Plants  
Approximate cost: \$20,000

In January 1992, K&M/PSED provided a power plant engineer to assess the operating capabilities of the electric system and district heating plants in Mongolia's three largest cities. As a result, USAID Formal Report No. 92-01 was produced and distributed in February 1992, and the findings and recommendations were presented to the State Department.

Included in the report was: 1) an assessment of the conditions of the existing steam plants' installation; 2) an assessment of the types of fuels needed to operate the plants; 3) an assessment of the power sector planning; and 4) a recommendation to assist the Government of Mongolia improve their energy sector.

3. USAEP -- Planning and Conceptualization for an Energy and Environment, Trade and Investment Promotion Program  
Approximate cost: \$25,000

The A.I.D. Asia Bureau developed a comprehensive program to emphasize cooperation between agencies in the U.S. regarding trade promotion programs in South East Asia. These agencies include A.I.D., the Department of Energy, the Trade and Development Program, the Department of Commerce, the Environmental Protection Agency, the Overseas Private Investment Corporation and the Export/Import Bank. The program is called the U.S. Asia Environmental Partnership (USAEP).

## II. STATEMENT OF WORK

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Throughout 1992, K&M/PSED provided technical assistance to the Asia Bureau for planning and conceptualizing the objectives and action plan for this trade program. In addition, K&M/PSED prepared a detailed questionnaire, "Questionnaire for U.S. Government Assistance for Energy and Environmental Trade Opportunities and Direct Investments in Asia", which would facilitate a "single window" application process for U.S. companies seeking trade assistance.

In addition, K&M/PSED provided technical assistance to USAEP through a consultant. The consultant submitted two concept papers to USAEP. The first paper, "Overseas Environmental Business Trade Representation," outlined the types of services to be provided by USAEP in Asia. Services listed include business information, promotion, and transaction services. The second concept paper provided by the consultant was on an Environmental Business Information Switchboard to be established in the U.S. for the dissemination of information.

As an ongoing cooperative effort, K&M/PSED was asked to participate in the USAEP Strategic Initiatives (SI). The SI are an effort to promote U.S. exports and investment in energy-related environmental products and services, and develop long term relationships with potential Asian partners. The first step of this effort was to select four Asian countries as priority targets. Selected countries included India, Indonesia, Taiwan and Thailand. K&M/PSED was asked to participate in the SI effort by travelling to one of these countries as part of a USAEP team and assisting in identifying environmental and development strategies for the country. The first set of country visits was scheduled for the end of March; however, the trips were delayed until further review of the program.

#### 4. Dominican Republic Approximate cost: \$15,000

USAID/Santo Domingo sought greater private involvement in the Dominican Republic's electric power sector and asked K&M/PSED to assist in this endeavor by meeting with government officials in April 1992. K&M/PSED was also asked to provide suggestions and recommendations as to the next steps for the Mission to follow.

In September 1992, K&M/PSED was asked by USAID/Santo Domingo to provide a private power expert to attend meetings between the Mission, the World Bank, and Government of the Dominican Republic (GODR) officials. Meetings were held in Washington, D.C. from September 21-25, 1992, with subsequent meetings held in the Dominican Republic. As a result of the meetings, it is anticipated that there will be further requests for technical assistance on privatization and private power issues.

## II. STATEMENT OF WORK

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### 5. Panama -- Requirements and Procedures for Private Power

Approximate cost: \$35,000

USAID/Panama City requested technical assistance to define the requirements, procedures, and course of action for procurement activities by the Government of Panama (GOP) related to electricity and to determine what role the private sector can play in providing this service. K&M/PSED visited Panama City in June 1992, to provide technical assistance to USAID/Panama City. Achievements attained during the trip included providing key Panamanian officials with a better understanding of the political, financial and technical issues arising from the purchase and sale of electricity; a realization by Panamanian officials that compromises will have to be reached in the commercial requirements for future electricity purchases; and an understanding and acceptance by utility technical personnel of the methods they must use to evaluate bids from the private sector in order to compare them, under equal conditions, with the equivalent costs incurred by the utility. Further guidance may be sought from K&M/PSED by USAID/Panama City in order to provide technical assistance for the continuation of the long-term procurement of blocks of electricity from the private sector.

K&M/PSED continued to provide USAID/Panama City with technical assistance throughout 1992. In August and September 1992, K&M/PSED personnel visited Panama to initiate the procedures leading to the preparation of the documents required by IRHE (the national electric utility) to request and evaluate bids, award contracts, and monitor construction, commissioning and production of a BOO plant which will generate electrical energy to be purchased by IRHE. K&M/PSED held meetings with USAID/Panama City and with IRHE officials.

In January 1993, K&M/PSED stopped providing technical assistance to the GOP and is waiting for further clarification of legal issues pertaining to the ability of IRHE to purchase electricity from the private sector.

### 6. India

Approximate cost: \$38,000

PSED is providing assistance to the Government of India on a wide range of privatization issues. A K&M/PSED representative traveled to India in September 1992 to meet with government, utility, and State Electricity Board (SEB) officials. As a result of this trip, a proposed scope of work was drafted for USAID/New Delhi concerning activities which will support the development of the Indian private power sector. Activities detailed in the scope of work include hiring financial and technical advisors to provide negotiating support to the Government of India, providing training to SEB officials, and conducting an assessment and delineation of institutional, policy and regulatory development. In addition, at the request of USAID/New Delhi, PSED

## II. STATEMENT OF WORK

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investigated the possibility of retaining the services of the International Development Law Institute (IDLI) to hold a training seminar for representatives of Indian State Electricity Boards (SEBs).

In November 1992, discussions were held in Washington with senior staff within R&D/E&I, the World Bank, and other programs within the Office of Energy and Infrastructure regarding support from these programs under the proposed scope of work for USAID/New Delhi. In December, USAID/New Delhi confirmed its intent to implement an OYB transfer to the Office of Energy and Infrastructure to support the Office's plan of activities in support of Indian power privatization. PSED and R&D/E&I have held subsequent discussions with the World Bank to plan for and coordinate the efforts of both organizations in support of the GOI.

In late January 1993, K&M/PSED again travelled to India to attend meetings with the World Bank, USAID/New Delhi and Indian government officials. The purpose of the meetings was to determine the final scopes of work for which each entity will be responsible. Funding for this technical assistance will be provided for by USAID/New Delhi through a transfer of \$5 million to the Office of Energy and Infrastructure. K&M/PSED is expected to receive \$1.5 million for its portion of the scope of work to be accomplished.

In February 1993, a K&M staff member and consultant travelled to India to attend meetings between the GOI, USAID/New Delhi, the World Bank, and R&D/E&I. The purpose of the meetings was to further define the short and long term scopes of work for the technical assistance to be provided to the GOI.

The proposed short term program of assistance consisted of:

1. Review of current policy, regulatory, and development environment in India
2. Evaluation and formulation of regulatory and policy recommendations
3. Provision of technical guidance to the department of power and select State Electricity Boards
4. Preparation of short-term GOI/SEB training activities

In March, the India Private Power Initiative (IPPI) document was written to outline the program of short-term assistance. Various meetings were held with R&D/E&I, EEP and ETP to agree on the short-term scope of work. The duration of the short-term scope of work was three months.

## II. STATEMENT OF WORK

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7. New Independent States -- Definitional Mission  
Approximate cost: \$10,000

In August 1992, K&M/PSED participated on a definitional mission to the NIS. The purpose of the mission was: (1) to expand USAID's contacts with key NIS officials and private sector proponents; (2) gain a better understanding of the energy and environmental problems and priorities of the NIS; (3) monitor on-going USAID-funded energy activities; and (4) discuss technical proposals to be considered for funding under the recently amended NIS Energy Efficiency and Market Reform Project. The participants visited the Ukraine, Belarus and Russia. K&M/PSED provided two power sector advisors for this mission.

8. LAC  
Approximate cost: \$4,000

In mid-December 1992, R&D/E&I and K&M/PSED met with officials from the World Bank. Although they expressed the Bank's full commitment to privatization and private power, the Bank officials would like guidelines written on private power. The Bank has asked for the following:

- A collection of materials (compilation of all available data) on private power to be used for training and technical assistance
- Training of World Bank staff on private power
- Training of developing country officials on private power

In January 1993, K&M/PSED met with R&D/E&I to determine a scope of work/level of effort that could be dedicated to assisting the World Bank with these issues. In February, documents were forwarded to the World Bank to initiate activity on this project.

### BUY-INS

1. Development and Management Training - USAID/New Delhi  
Approximate cost: \$32,000

In response to a Buy-In by USAID/New Delhi, K&M/PSED provided the Mission with assistance in (1) technical assistance in defining a suitable role that the Mission could assume in the promotion of private power in India, and (2) the selection and transportation of speakers for a private power conference.

## II. STATEMENT OF WORK

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K&M/PSED travelled to India during June 1992 to hold discussions with USAID/New Delhi, Indian companies, and government officials regarding the role of A.I.D. and the Mission in providing assistance related to project development to the Government of India, the State Electricity Boards, and U.S. companies.

In addition to providing technical assistance to USAID/New Delhi, K&M/PSED provided the Mission with assistance in the selection and transportation of speakers for a private power conference on private investment opportunities in the Indian private power sector, held in New Delhi in June 1992. The conference, which was attended by approximately 300 representatives of the Indian public and private sectors and U.S. companies, stimulated strong communication between Indian companies, U.S. companies, and R&D/E&I regarding potential opportunities for joint venture arrangements between U.S. and Indian companies, and potential opportunities for R&D/E&I in facilitating these communications.

### 2. Cost Structure and Transfer Pricing in the Petroleum Industry - USAID/Manila Approximate cost: \$433,000

At the request of USAID/Manila, K&M/PSED conducted a study on the cost structure and transfer pricing of the petroleum industry in the Philippines. The main objectives of the study are: to determine the appropriate oil policy guidelines, evaluate the current costs and regulatory conditions, analyze the capabilities of the oil refinery industry, and identify the present alternative approaches to the current Philippines oil industry pricing mechanisms.

K&M/PSED arranged to send consultants to the Philippines to undertake tasks delineated under the delivery order. Several missions were dispatched to gather data and make contacts with the three refineries that make up the petroleum sector in the Philippines: Petron, Caltex and Shell. The participants gave a preliminary report on results and information obtained during the visit and suggested possible policies for the future to USAID/Manila, the Philippines Office of Energy Affairs, and the Energy Regulatory Board.

The final draft of this study was submitted to USAID/Manila in February 1993. In March, USAID/Manila requested K&M/PSED to modify the final report. The final report includes chapters on: background of world oil markets; oil product production costs and pricing; refining facilities and efficiency; taxes on petroleum, refining, and marketing - returns, profitability, and margins; distribution and dealer margins - futures use in setting prices; oil price stabilization; economic impact of different petroleum pricing regulation; summary and recommendations; control versus de-control of oil product pricing; privatization, regulation, energy policy, commodity taxation and price controls; and implementation of the oil price de-control.

## II. STATEMENT OF WORK

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3. Policy Reform and Institutional Development Assessment for Competitive Market Adaptation of the Egyptian Power Sector - USAID/Cairo  
Approximate cost: \$65,000

In December 1992, K&M/PSED received a Request for Proposal (RFP) to conduct an assessment of the Egyptian power sector through a Buy-In to the PSED contract by USAID/Cairo. The main objective of the study is to establish a long-range plan to assist the electric power sector in Egypt meet increasing energy demands and to operate the power sector on a commercial basis.

In response to the RFP, in January 1993, K&M prepared a proposal outlining activities to be accomplished for this effort. Activities include: 1) a review of the legal and regulatory framework of the energy sector and Egyptian Electricity Authority (EEA); 2) a technical evaluation of assets; 3) a financial valuation of assets; 4) a review of computer and information systems; and 5) a review of the management of utility procedures, policies, organization and general operations.

During January 1993, K&M/PSED traveled to Cairo to conduct meetings with USAID/Cairo, the Government of Egypt and the Egyptian Electricity Authority (EEA). In addition to discussing the scope of work required for the assessment, the trip also served to establish initial contacts with the Ministry of Energy, EEA and the companies presently responsible for the distribution of electricity in Egypt. EEA was found to be very helpful, and provided K&M with a number of reports to be used as background information on the power sector.

The buy-in for this project was awarded in March. A technical assistance team was dispatched to begin work on the assessment and set up offices in Cairo.

4. Private Sector Opportunities Structuring for the New Independent States - NIS Task Force  
Approximate cost: \$10,000

On February 8th, 1993 K&M/PSED received a RFP for a buy-ins for assistance to the NIS. A proposal was prepared and submitted to the Contracts Office. The proposal outlined the following tasks to accomplish this effort:

- Identification of near-term energy sector needs suitable for private sector participation
- Assessment of institutional constraints
- Development of an appropriate institutional planning framework
- Privatization assistance for bankable near-term project opportunities

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The duration of this assignment is expected to be ten (10) months at an approximate cost of \$500,000.

5. Conventional Power/Cogeneration Performance Improvement for the New Independent States - NIS Task Force  
Approximate cost: \$10,000

Also in February 1993, K&M/PSED received a second RFP for a buy-in from the NIS Task Force. K&M/PSED prepared a proposal, consisting of the following tasks:

- Audit of typical power complexes
- Feasibility evaluations of project opportunities
- Identify potential privatized financing options
- Facilitation of commercial implementation

The duration of this assignment is expected to be seven months at an approximate cost of \$1,000,000.

Both delivery orders were awarded in March. K&M/PSED dispatched a technical assistance team to Armenia to initiate work for both delivery orders.

## II. STATEMENT OF WORK

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### E. STUDY TOURS

Study tours to the U.S. are technical programs which focus on enhancing the skills and knowledge of developing country officials concerning the strategies and techniques of private sector energy development. Study tours also provide visiting officials with an opportunity to meet U.S. executives and technical specialists involved in private energy projects.

#### 1. India

Approximate cost: \$66,000

A delegation of senior-level representatives of the Government of India (GOI) and the Indian power sector visited the U.S. from May 26 - June 5, 1992, to initiate discussions with U.S. investors, developers, and multilateral agencies on the development of private power projects in India.

The delegation included India's Cabinet Secretary, the Secretary of the Department of Power, the Secretary of the Ministry of Finance, the Joint Secretary, Department of Power, the Vice Chairman of Tata Electric Companies, and the Managing Director of Calcutta Electric Supply Company (CESC).

The study tour began with a one-and-a-half day workshop in Washington, D.C. on May 28-29. The delegation's goal was to promote new legislation allowing private sector participation in India's growing energy sector. The workshop included presentations covering background of the Indian electricity sector, recent reforms in private power, and discussions by representatives of the World Bank, the IFC, the U.S. Government, and private power developers. The presentations outlined the actions the Indian government must undertake to attract U.S. investors. The workshop was attended by approximately one hundred private power developers (Mission Energy, Asea Brown Boveri, Bechtel, SEI, and Enron, among others) and 25 representatives from U.S. government agencies, the World Bank, and the IFC.

In addition to the Washington, D.C., workshop, PSED sponsored the delegation's travel to Houston, New York, and San Francisco for meetings with U.S. developers and financiers interested in investing in the Indian electricity sector.

#### 2. Russia

Approximate cost: \$2,000

Senior officials from of the Russian Federation Ministry of Fuel and Energy visited the United States on a study tour sponsored by the U.S. Trade and Development Program (TDP) to discuss potential areas of cooperation with the U.S. energy sector. During this visit, the Russian officials met with representatives of the

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Office of Energy and Infrastructure and PSED. The Russian officials, who are in charge of the operation of the electric power, natural gas, oil and coal sectors in that country, met representatives of U.S. companies employing advanced energy development, generation, transmission and distribution technologies. Discussions centered around potential areas of cooperation between the U.S. energy industry and the Russian Ministry of Fuel and Energy.

3. Andhra Pradesh, India  
Approximate cost: \$33,000

In March 1993, as part of the overall India Private Power Initiative (IPPI) effort, K&M began preparing a study tour for officials from the Andhra Pradesh State Electricity Board (APSEB). A tentative schedule was outlined to include a one week visit to Washington D.C. to participate in the International Private Power Forum sponsored by the U.S. Energy Association and the Edison Electric Institute, followed by site visits to two developers. The developers were selected because they already had a Memorandum of Understanding (MOU) with APSEB.

4. Maharastra, India  
Approximate cost: \$2,000

In March 1993, PSED participated in a Reverse Trade Mission for officials from Maharashtra, which was sponsored by the California Energy Commission. The participating K&M/PSED representative gave a presentation on private power.

## II. STATEMENT OF WORK

### F. SEMINARS/WORKSHOPS/CONFERENCES

The concept of private participation in the energy sector is new to many developing countries. This is particularly true in the power sector where public utilities have long held a monopoly on power generation. In addition, government and utility officials generally lack the information and experience in issues related to privatization, private power, and private participation in the energy sector. Therefore, R&D/E&I and K&M/PSED sponsor and organize seminars, workshops and conferences which disseminate information on these issues, and explain the benefits of private participation as well as the steps that developing countries need to take to encourage private sector participation.

K&M/PSED has participated in, sponsored, and organized the following conferences and workshops:

1. Brazil/USA Seminar on Electric Power Development
2. First International Trade Conference for Wind Energy - Argentina
3. Energia '92 - Mexico
4. The Power Sector in Central America
5. "Private Sector Power in Asia" - Kuala Lumpur, Malaysia
6. "Windpower '92" - Seattle, Washington
7. "Powergen" - Orlando, Florida
8. "Cuenca del Caribe en Miami", Miami, Florida
9. Overseas Private Investment Corporation (OPIC)
10. "Private Power in the Pacific Rim", Los Angeles, California

1. Brazil/USA Seminar on Electric Power Development  
Approximate cost: \$13,000

Co-sponsored by the US Energy Association (USEA), the Brazilian National Committee to the World Energy Council (BNC), and the Brazilian state-owned utility Eletrobras, a seminar on Electric Power Development in Brazil was held on April 27-28, 1992. K&M/PSED personnel attended the seminar and gave a speech titled "The Private Sector's Role in Electric Power Development". Although the purpose of the conference was to discuss and exchange experiences through the analysis of major issues that have been affecting the development of the electric power sector in both the U.S. and Brazil, the focus quickly turned to privatization. The high level representatives of both the public and the private sector expressed great interest in the process of privatization, especially as it applies to the electric power sector.

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2. First International Trade Conference for Wind Energy -- Argentina  
Approximate cost: \$15,000

Recognizing the potential for increased U.S. private wind energy in Argentina, the American Wind Energy Association (AWEA) and the Wind Power Regional Center of Argentina, under the auspices of the Office of Energy and Infrastructure (R&D/E&I) through the PSED program, held the "First International Trade Conference for Wind Energy" in Chubut, Argentina, June 15-17, 1992.

The objective of the conference was to bring together the Argentine and U.S. wind power industry along with pertinent Argentine national and provincial officials in order to propel private enterprise development in wind energy. The conference drew an overall attendance of over 100 individuals and featured presentations from Argentine and U.S. government officials and representatives from the U.S. wind power industry. Following the presentations, U.S. and Argentine wind power companies were given the opportunity to meet and further discuss business opportunities. The discussions, which centered on potential joint venture agreements, licensing agreements, representation agreements, and project development, were very effective in that they initiated contact between individuals that were interested in realizing actual power projects.

3. Energia '92 -- Mexico  
Approximate cost: \$2,500

On September 22-24, 1992, K&M/PSED staff members attended the Energia '92 seminar and trade show in Mexico City, Mexico, and gave a presentation on "Project Financing". In addition, Representatives from the Comision Nacional para el Ahorro de Energia (CONAE) spoke on cogeneration, industrial efficiency and private power. Approximately forty (40) U.S. companies attended this international conference and participated in the trade exhibition. After the conference, participants submitted many requests for information on private power.

4. World Bank Conference - "The Power Sector in Central America"  
Approximate cost: \$1,000

K&M/PSED provided organizational assistance and support to the World Bank for a one-day workshop on "The Power Sector in Central America" held on October 2, 1992. Organizational assistance in convening, servicing, and attending the workshop was provided by K&M/PSED.

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5. "Private Sector Power in Asia" - Kuala Lumpur, Malaysia  
Approximate cost: \$85,000

Private sector power in Asia was the subject of a three-day conference held October 27-29, 1992, in Kuala Lumpur. PSED and the World Bank's Asia Technical Department sponsored the conference, which focused on current issues in project development in the Asian power market. Specific issues covered during the conference included regulation and pricing, fuel supply, sources of financing, technological and environmental innovations, and joint ventures.

Representatives of eight Asian nations (Bangladesh, China, India, Indonesia, Malaysia, Pakistan, the Philippines, and Thailand) attended the conference. These countries were selected because they possess growing markets for private power and offer significant opportunities for developers and investors. The governments of these countries are actively pursuing private investment and development as a means of meeting their escalating power needs.

The highlight of the conference was a regional symposium session in which the country representatives reiterated their interest in private power. New legislation, incentives for private investors, and basic strategy for doing business in these eight nations was discussed. On the second day of the conference, a session on the role of donor agencies included presentations from USAID, the World Bank and the IFC. On the third and final day of the conference, case studies of actual private power projects in Asia were presented to illustrate the lessons learned in project development.

6. "Windpower '92" - Seattle, Washington  
Approximate cost: \$1,500

Windpower '92 was sponsored by the American Wind Energy Association, the National Renewable Energy Laboratory (NREL), and the U.S. Department of Energy to draw attention to the opportunities in windpower generation in the Pacific Northwest. K&M/PSED participated in the conference, which was held in Seattle, Washington from October 19-23, 1992, and gave a presentation on private sector project finance.

7. "Powergen" - Orlando, Florida, November 18-24, 1992  
Approximate cost: \$1,500

The purpose of the workshop was to promote the export of power equipment and supplies by U.S. companies. K&M/PSED participated in the Powergen Conference and Trade Show, and gave a presentation on "Financial Assistance for Power Equipment Exporters". In addition, K&M/PSED assisted USEA (one of the conference sponsors) with setting up the agenda and contacting potential speakers.

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8. "Cuenca del Caribe en Miami", Miami, Florida, Nov. 30-Dec 4, 1992  
Approximate cost: \$ 900

K&M/PSED participated in this conference on the development of the Caribbean Basin and gave a presentation on "Private Sector Participation in Power Development." Other subjects discussed at the conference included telecommunications, tourism, transportation and agriculture.

9. Overseas Private Investment Corporation (OPIC)  
Approximate cost: \$10,000

During December 1992, K&M/PSED began assisting OPIC with an investment mission to India and Sri Lanka. OPIC is sponsoring this event, and K&M/PSED is assisting by promoting the mission to the U.S. power industry. In mid-December, K&M conducted a mass mailing about the mission to private power companies. The mission is scheduled for January 24-February 5 and will include meetings in Colombo, Bombay, New Delhi, and Bangalore.

During January 1993, K&M/PSED continued to provide support to OPIC by promoting their investment mission to India and Sri Lanka. The mission took place from January 24-February 5. In January, K&M followed up on a mass mailing conducted in December and contacted approximately 150 people interested in power.

10. "Private Power in the Pacific Rim" - Los Angeles, California  
Approximate cost: \$2,000

K&M filled in for R&D/E&I at this two-day conference and gave a presentation on "Financial Assistance for Private Power Developers." The conference was attended by over 150 participants representing U.S. companies interested in developing or investing in private power projects in Asia. Other topics discussed at the conference included project risk and risk allocation, legal issues associated with private power, and public and private sources of financing for projects.

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### G. COUNTRY ASSESSMENTS

Although common conditions prevail throughout developing countries, the specific environment for private energy/power development is unique in each country. Therefore, K&M/PSED conducts country assessments to determine the legal, regulatory, economic, financial, institutional and technical conditions which impede or promote private enterprise involvement in the energy and power sector.

K&M/PSED has identified three countries for country assessments: Argentina, Chile, and India. These country assessments will review the history of electric power in these countries, examine existing power generation capacity and fuel sources, forecast projected capacity requirements, identify and explain key laws and regulations, and assess the environment for private power development. K&M/PSED is in the process of collecting relevant information for these country studies.

Country Assessments are usually performed in conjunction with technical assistance. For example, the Philippine Oil Pricing study necessitated the examination of the petroleum industry and the present pricing structure in the Philippines. In addition, technical assistance provided to the Government of India has resulted in an assessment of the present private power situation in the country.

### H. SPECIAL STUDIES

The promotion and development of private participation in the energy and power sector is a complex undertaking due to the great variety of issues and the dynamics of privatization. In light of this, K&M undertakes special studies in a broad variety of issues to address specific problems and questions.

#### 1. Comparative Analysis of Privatization Initiatives

K&M/PSED is preparing a comparative analysis of privatization initiatives of the electric power sectors in Chile, Argentina, India, and the United Kingdom. These countries were selected because of their differing strategies for privatizing their power industries and for promoting private power development. The study will compare the different approaches used by each country, assess the degree of market reform, and evaluate the benefits and disadvantages of each approach. Specifically, the study will focus on ownership issues and compare how each major component of the power systems (generation, transmission and distribution) is being addressed by these governments.

#### 2. Compendium Study

K&M/PSED directed the compilation of a compendia of laws and regulations related to private power and privatization in the power sector. The compendia, which covered both developed and developing countries, provides private power investors and developers with information concerning different institutional, legal, regulatory and financial regimes related to private participation in the power sector.

This study was conducted by RCG/Hagler Bailly under the direction of K&M/PSED. Fourteen countries were included in the study, including Argentina, Chile, Costa Rica, Dominican Republic, India, Indonesia, Italy, Netherlands, Pakistan, Philippines, Spain, Turkey, United Kingdom and the United States. Other countries which may be included are Malaysia, Mexico and one of the Eastern European countries. Countries were selected for the study either on the basis of their potential for private sector opportunities or because their laws and regulations can be used as typical models.

The scope of work for the compendia included: (1) identifying and collecting relevant laws and regulations pertaining to the power sector, conducting a limited legal analysis of the power sector organization and regulation documents; (2) identifying and collecting information on private investment in the power sector, preparing brief country summaries of their legal and regulatory approach; and (3) assembling the information into the compendia volumes.

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### 3. Sources of Finance for Private Power Projects in Asia

K&M/PSED contracted a consultant to write a study on financing available for private projects in Asia. The report lists organizations such as the Asian Development Bank, EXIM Bank, OPIC and the IFC which provide feasibility study assistance and sources of project financing. The study includes the principal activities of each organization and contact names.

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### I. TRAINING COURSES AND INTERNSHIPS

K&M/PSED sponsors formal training courses for senior-level policy makers and internships for senior-level and mid-level managers from developing countries. Training courses and internships help promote greater understanding of private sector energy developments by focusing on the opportunities for and barriers to private sector development of energy projects. In particular, internships provide managers with on-the-job training with U.S. private companies, utilities and utility regulatory commissions.

#### 1. Privatization Course in Spanish

K&M/PSED participated in a Spanish language seminar concerning privatization sponsored by the Center for Financial Engineering in Development (CFED), held in Washington D.C. on May 11-22, 1992. CFED invited K&M/PSED and R&D/E&I to attend and give presentations at the seminar. K&M/PSED made a presentation concerning the private sector perspective. Approximately 20 participants from different Latin American countries attended the course.

#### 2. Center for Financial Engineering in Development Training Seminar

In September 1992, K&M/PSED presented the first module of a training seminar entitled, "Private Participation in Power Development: Market-Based Approaches to Project Analysis and Finance". K&M/PSED staff members gave presentations on "Policy Framework for Private Power" in three one-half day sessions. Topics covered by the presentations included structuring private power transactions, planning and integrating private power options, and private power policy decisions and framework.

**J. PRIVATE POWER REPORTER AND DATA BASE**

The *Private Power Reporter*, a quarterly publication of the Office of Energy and Infrastructure, informs the general public and the energy community about privatization and private sector issues in developing countries. The Private Power Data Base contains information on private energy and power activities in developing countries, including information on project opportunities, pertinent laws and regulations for selected countries, and listings of U.S. vendors of power and co-generation technologies.

K&M/PSED publishes the *Private Power Reporter* and maintains the Private Power Data Base.

- *The Private Power Reporter*

K&M/PSED has published and distributed four issues of the *Private Power Reporter* (PPR): November '91, March '92, June '92, and March '93. The PPR was recently revised to incorporate a new format which will have a more regional focus and provide more statistical information concerning worldwide export and trade opportunities.

- Private Power Database

The Private Power Database was transferred from RCG/Hagler Bailly in June 1992. The database contains information on over 6,000 companies which are interested in issues related to privatization and private power. Other database material includes information concerning country legislation on private power, privatization activities, and status with OPIC and the World Bank.

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### K. R&D/E&I Support

K&M/PSED frequently responds to unscheduled requests made by R&D/E&I. These requests consist of a broad range of tasks including preparing speeches and presentations, providing research support, writing proposals and strategy papers, and providing miscellaneous administrative support among other activities. The follow list outlines the major requests made by R&D/E&I, but excludes day-to-day tasks.

- K&M/PSED prepared a presentation for a conference on "Latin America's Energy Industry: New Opportunities for Growth through International Investment and Trade" hosted by the Institute of the Americas, in La Jolla California, March 8-10, 1992. The presentation, given by an official from R&D/E&I, concerned the Regulatory Aspects of Electricity Systems. In order to prepare the presentation, K&M/PSED conducted research on the present regulatory and legislative situation in Argentina, Bolivia, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.
- K&M/PSED assisted R&D/E&I in preparing an "Energy and Environmental Technical Assistance Plan" to be presented to officials from the Commonwealth of Independent States. In addition, K&M/PSED prepared a briefing summary concerning K&M/PSED and its subcontractors which was incorporated in a proposal to assist the newly created USAID Mission(s) for the Commonwealth of Independent States.
- On behalf of R&D/E&I, K&M/PSED compiled a list of U.S. companies that expressed a strong interest in participating in meetings with senior government officials from the Commonwealth of Independent States.
- At the request of R&D/E&I, K&M/PSED wrote a strategy paper and presentation concerning Latin America and the Caribbean Region for an R&D/E&I staff meeting.
- K&M/PSED collaborated with ETIP (Energy Technology and Innovation Project - Bechtel) in order to write a proposal to the Government of Armenia concerning proposed assistance for development of its energy sector. The proposal included a rationale for private sector investment in Armenia's energy sector and the requisites for project implementation.
- K&M/PSED personnel prepared a 17-page report describing the activities of PSED in the Latin America and Caribbean Region (LAC) for R&D/E&I.

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- At the request of R&D/E&I, K&M/PSED prepared a document describing how PSED activities benefit U.S. industries. This report was to be used in a House Appropriations Committee Hearing.
- K&M/PSED provided assistance to R&D/E&I by reviewing and interpreting recently passed legislation for privatization in Argentina.
- K&M/PSED evaluated the feasibility of providing legal advice for the proposed Arun Hydro project. As a result of this quick-and-dirty evaluation, PSED recommended that proposed service did not fit into the participation of the private sector.
- K&M/PSED assembled presentation overheads for R&D/E&I. The presentation was given at a privatization seminar held by the Center for Financial Engineering in Development.
- K&M/PSED provided information to the Asia Bureau concerning PSED activities in the Pacific region, and R&D/E&I programs which may be of assistance to the Asia Bureau.
- K&M/PSED wrote a concept paper for a workshop on "Environmental and Clean Energy Opportunities in South East Asia" for R&D/E&I.
- K&M/PSED prepared documentation for R&D/E&I regarding programs available from the Office of Energy (PSED, ECSP) for the A.I.D. Missions in Mali and Tunisia.
- K&M/PSED prepared report for R&D/E&I concerning PSED/ECSP activities in the Near East.
- K&M/PSED prepared a presentation for R&D/E&I to give at the Center for Financial Engineering and Development's privatization course.
- K&M/PSED prepared documentation for R&D/E&I on trade activities.
- K&M/PSED wrote a presentation for Ambassador James Michel, Assistant Administrator for Latin America and the Caribbean, for a workshop, "The Power Sector in Central America", held at the World Bank on October 2, 1992.
- K&M/PSED prepared a one-page guideline (check list) for clearing all activities for R&D/E&I.

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- K&M/PSED prepared a presentation for R&D/E&I to present at the Malaysia conference.
- K&M/PSED prepared a presentation for R&D/E&I to present at a conference in Moscow.
- K&M/PSED prepared a presentation for R&D/E&I to present at a conference at the India Chamber of Commerce.
- K&M/PSED prepared budgets for possible workshops in Argentina and Uruguay.
- K&M/PSED prepared a Responsibility Memo (describing PSED staff responsibility by region of the world) for R&D/E&I.
- K&M/PSED prepared briefing book for R&D/E&I staff going on travel.
- K&M/PSED provided a briefing for R&D/E&I staff regarding the new private power law in Mexico.
- K&M/PSED provided list of resumes to R&D/E&I of possible candidates to provide long-term private power assistance to USAID/Manila and/or USAID/Jakarta.
- K&M/PSED provided R&D/E&I with a list of upcoming conferences.
- K&M/PSED provided information gathering, preparation of documents, responding to queries, and forwarding of material for R&D/E&I.