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APPENDIX A

PRELIMINARY OEP FUNCTIONAL AND ORGANIZATIONAL DESCRIPTION

As originally conceived of in the Project Paper, OEP's mission is to provide technical support for national energy planning and analysis. The initial concept identified three basic functional activities: data base development, integrated analysis, and planning and policy evaluation. In determining the tasks required to carry out its mission effectively, the OEP Director and the ANL team identified additional activities that the organization will have to undertake. First, the scope of OEP's efforts must cover field studies as well as the more traditional analytical planning. Previous experience in Egypt has shown that reports and studies tend to be unused unless there is a companion effort to demonstrate the practical applications of an analysis. Also, the type of data that OEP will be using for its studies must, in some cases, be verified by field measurements. There is not any existing organization in Egypt having the expertise, the equipment, or the mandate to gather energy data in such a detailed and reliable manner. OEP will fill this gap.

Second, the scale of OEP's activities must cover the range from individual projects (e.g., plant level) to the national level energy analysis. The organization will be a source of technical assistance to individual facilities, to sectoral studies (e.g. transportation planning, industrial planning), as well as to national energy planning. This orientation will allow OEP to influence energy-related decisions at a project level and a sectoral level as well as at a national policy level. The effectiveness of any energy conservation program developed by OEP will be greatly enhanced by this broader orientation.

Third, OEP's operational activities must extend from broad national policy recommendations down to assistance in implementing specific energy measures. By including in OEP's functions some of the implementation aspects, the organization's ability to be a significant force in shaping energy decisions will be improved. While OEP's role is not that of an implementation agency, having some of its activities interface directly with other Egyptian government organizations that are implementing bodies will increase its effectiveness.

This evolution of OEP's mission was developed jointly by the OEP Director and the ANL team and was presented to the Board of Directors at their regular monthly meeting on October 11.

A preliminary functional organization chart for OEP that addresses the expanded mandate was prepared and is shown on Fig. 2. It should be emphasized that this is a functional description and does not necessarily represent the structure that will ultimately be used to staff the organization.

The organization's activities can be grouped into four major categories:

- Policy, planning, and analysis;
- Engineering services;

OEP FUNCTIONAL STRUCTURE

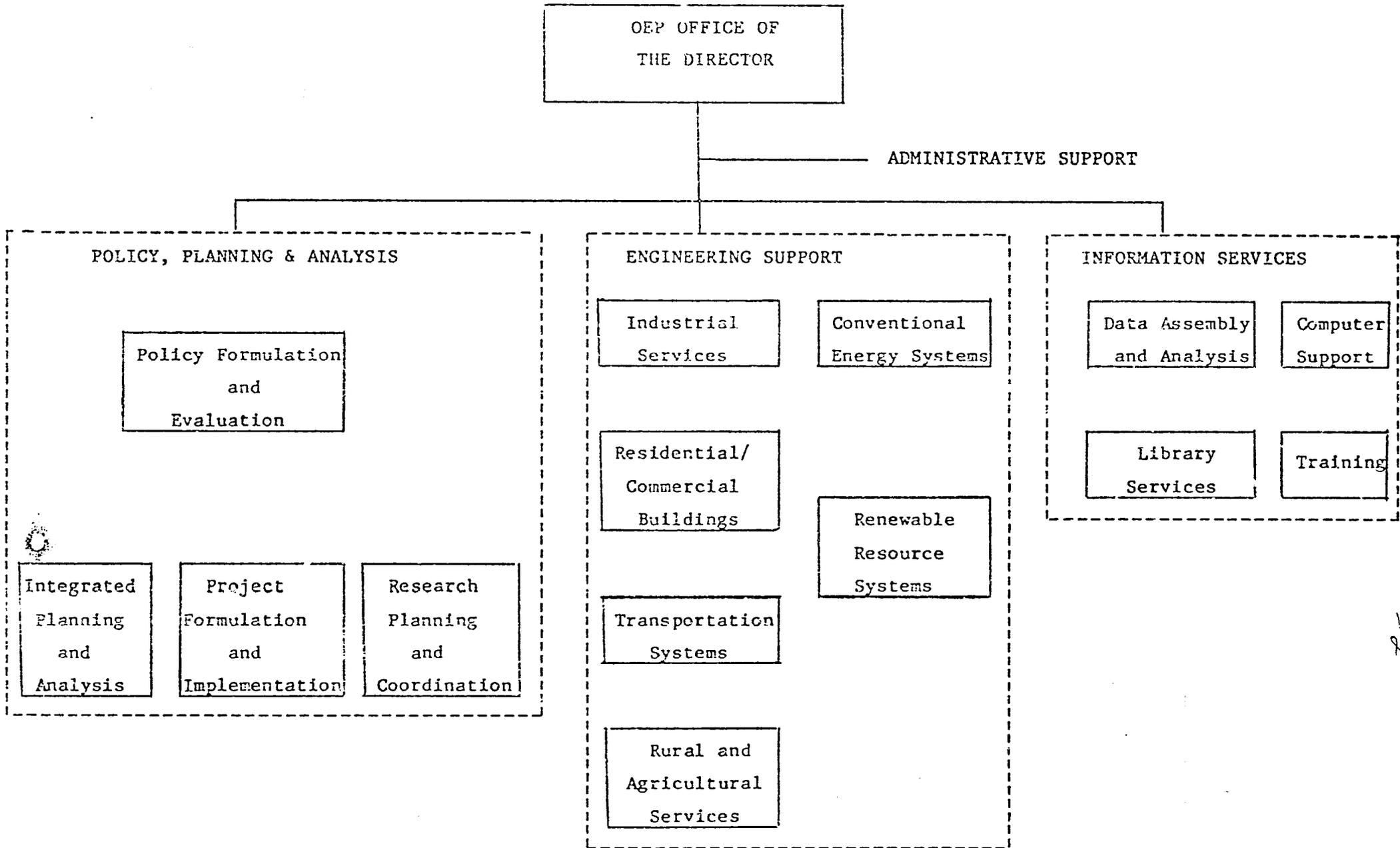


Figure 2

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- 3
- Information services; and
 - Administrative support.

A.1 Policy, Planning and Analysis

This activity is designed to formulate, evaluate, and select the recommendations that OEP will present to the Supreme Council on Energy, to the inter-ministerial committees and to the other Egyptian organizations. It uses information generated by other OEP activities and by its own studies. It is the multidisciplinary activity within OEP. This activity has four principal sub-activities.

Policy Formulation and Evaluation. This is the function of preparing the actual statements that are issued as recommendations from OEP. This group:

- Identifies energy policies that are to be considered (e.g. regulations, supply rationing, pricing, etc.)
- Uses results of OEP and other studies to evaluate alternative policies.
- Evaluates legal and implementation aspects of various policies.
- Evaluates economic, social and environmental impacts of alternative policies.
- Formulates policy statements to be recommended by OEP to other groups.

Integrated Planning and Analysis. This is the analysis and computation function that provides the necessary information for policy formulation. This group:

- Conducts energy analyses to provide information for policy studies;
- Develops and maintains analytical tools (e.g. economic models, energy supply/demand models, etc.);
- Conducts "quick response" studies to provide information for policy studies; and
- Conducts cross-checking studies to corroborate energy planning efforts of other groups.

Project Formulation and Implementation. This function deals with specific projects. It is designed to provide consistent reviews of various energy-related projects and to develop coordinated financing proposals. The group:

- Reviews proposed energy project alternatives (e.g. capital investment projects),
- Develops priorities for various projects, and
- Assists in the arrangement of financing packages.

Research Planning and Coordination. This function deals with the energy research being carried out by other institutions in Egypt. The group:

- Recommends energy research programs for the country,
- Monitors status of ongoing energy research efforts,
- Convenes meetings of researchers to exchange ideas, and
- Monitors foreign energy research activities.

A.2 Engineering Services

This activity is designed to provide detailed engineering information in support of OEP's planning needs and to provide technical advice and engineering support to energy users and suppliers. It is structured to match the various sectors with which it must deal.

Industrial Energy Services. This group focuses on the industrial sector. Its role is to:

- Conduct detailed in-plant energy consumption audits,
- Provide plant operators with technical advice on energy conservation opportunities,
- Conduct feasibility studies on energy conservation measures, and
- Define industrial conservation research needs.

Residential and Commercial Building Services. This group deals with buildings and it:

- Conducts detailed building energy audits,
- Provides architectural and engineering advice on energy conservation opportunities,

- Conducts feasibility studies, and
- Defines research needs.

Transportation Services. This group is the principal interface with other transportation planning activities . Its role is to:

- Gather information on transportation energy consumption (vehicles and transportation network),
- Provide advice on vehicle and network energy efficiency improvements, and
- Collaborate with urban and transportation planning agencies.

Rural and Agricultural Services. This group deals with the rural and agriculture sectors and with other Egyptian agencies operating in these sectors. The group:

- Gathers information on rural and agricultural energy consumption, including commercial and noncommercial energy use;
- Provides extension services to farmers and rural villages on more efficient energy use; and
- Evaluates feasibility of alternative energy supplies in rural areas (e.g. rural electrification, gas systems, decentralized renewable resource systems).

Conventional Energy Production Services. The intent of this function is to provide OEP with its own expertise on conventional energy systems without duplicating the planning staffs of other organizations. This small group:

- Maintains up-to-date status on current levels of energy resources (oil, gas, coal, nuclear materials, etc.)
- Maintains up-to-date status on existing and planned energy processing and production facilities (e.g. refineries, power plants),
- Reviews energy efficiency of existing and planned supply network, and
- Maintains status on state-of-the-art supply technologies.

Renewable Resource Technology Services. As with conventional energy systems, the purpose of this group is to provide OEP with its own expertise in the field and not to duplicate existing capability in other organizations. The group:

- Maintains up-to-date status on renewable resource projects,
- Conducts feasibility studies on various renewable resource systems,
- Provides technical advice to renewable resource users,
- Maintains status on state-of-the-art renewable resource technologies, and
- Identifies research needs.

A.3 Information Services

This activity is designed to assemble the information and data necessary to support OEP efforts and to disseminate OEP information to those needing it.

Data Assembly and Analysis. This is the main data gathering function of OEP. All of the statistical data will be handled by this group. It will:

- Gather information on energy use,
- Prepare necessary data management procedures,
- Conduct statistical analysis and screening of data,
- Assemble other nonenergy data necessary to support OEP studies,
- Coordinate with other data-gathering functions in other organizations, and
- Maintain historical records of energy use and other needed data.

Library Services. This is the information-handling function of OEP.

The group:

- Develops and maintains a library for OEP;
- Assembles appropriate reports, papers, periodicals from local and foreign sources;
- Maintains access to information data bases (local and foreign); and
- Conducts literature searches.

Computer Support. OEP will require significant computer capability to carry out its mission. This group:

- Identifies and recommends procurement of computer hardware and software,
- Maintains and operates computer equipment, and
- Provides computer programming support.

Training. Training of OEP staff, other Egyptian energy professionals, and the general public will be part of this activity. The group:

- Plans training programs for OEP staff;
- Plans and implements training programs for outside personnel (e.g. plants operators, drivers, general public);
- Prepares training materials; and
- Coordinates with foreign training programs.

A.4 Administrative Support

This activity provides the administrative functions for OEP. It includes the following functions:

- Accounting
- Budget preparation
- Personnel
- Purchasing and subcontracting
- Office management
- Typing and reproduction services
- Translation, editing, and report publication

APPENDIX B

PRELIMINARY ORGANIZATIONAL ARRANGEMENT

OEP's success in influencing energy decisions will rely, in part, on the network established between itself and other Egyptian organizations. OEP will be relying on other organizations to implement its energy recommendations and so must develop sound working relationships with these groups. In addition, OEP will want to use the expertise in other organizations to carry out some of its technical tasks.

A number of steps have already been taken by the OEP Director to establish the necessary network of contacts, formal working agreements, and informal arrangements. The process is still in the early stages and all of the necessary ties have not yet been established. Nevertheless, significant progress has been made, which is described in the following sections.

B.1 Supreme Council on Energy

The relationship between OEP and the Supreme Council on Energy is a formal arrangement and has already been discussed. The Supreme Council will be the principal forum in which the work of OEP will be presented for decision-making review. Given the makeup of the Council, it is evident that OEP's work will be presented to the highest level of Egyptian government officials. OEP recommendations that are approved by the Council are likely to carry the full weight of Egyptian government policy.

One of the responsibilities of the Supreme Council is to prepare Egypt's near- and long-term energy program. By decree, the Council is required to develop a strategy and general plan for Egypt beginning with the 1980-1990 decade. As OEP becomes fully operational it will probably have the largest role in providing the necessary technical analyses for consideration by the Council.

In addition to the OEP Director's responsibility, Dr. Abdallah is chairman of the Council's Working Group on Energy Resources. The chairman of the Working Group on Consumption, Mr. Ahmed Nur El-Din, is scheduled to become a full-time staff member of OEP. The Chairman of the Supreme Council is Deputy Prime Minister, Minister of Petroleum Hilal, in whose organization OEP

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administratively resides. Thus, OEP has a very prominent position in relationship to the Supreme Council on Energy and is in a good position to provide policy-making information.

B.2 OEP Board of Directors

The relationship between OEP and its Board of Directors is also a formal linkage and has also been discussed before. The Board's makeup, which includes the Ministry of Electricity, the Ministry of Planning, the General Organization for Industrialization, the Petroleum Research Center, and the Ministry of Petroleum (through Dr. Abdallah), provides representation of key organizations in the energy area. The personnel on the Board provide OEP with direct and formal links to the organizations represented. This will enhance the eventual implementation of OEP recommendations.

B.3 Ministry of Petroleum

OEP is administratively attached to the Ministry of Petroleum and is currently using some of the Ministry's facilities and personnel to start up its activities. In addition to being OEP Director, Dr. Abdallah is a senior-level staff member of the Ministry and will retain that position even as OEP becomes fully operational. This close relationship provides OEP with access to the policy-making and implementation channels in the petroleum sector.

Deputy Prime Minister, Minister of Petroleum, Hilal is the individual to which OEP reports within the Ministry of Petroleum. He is also chairman of the Supreme Council on Energy. This provides another important link to the decision-making process.

Another aspect of this connection is that the Ministry of Petroleum is likely to be one of the candidate agencies that will help finance OEP at the end of the AID project.

B.4 Inter-Ministerial Committee on Production

This is a cabinet-level committee consisting of representatives of 14 ministries (Industry, Agriculture, Petroleum, Electricity, Housing, Construction, Transportation, Tourism, Supplies, Finance, Planning, Economy, Communications and Irrigation). This is a major policy-making group in

Egypt. OEP is linked to this committee through Deputy Prime Minister Hilal, who is the Chairman of the Committee.

B.5 Egyptian General Petroleum Corporation (EGPC)

The Egyptian oil company has a great deal of energy expertise in its staff. One senior staff member (Ahmed Nur El-Din) and two engineers are scheduled to be assigned from EGPC to OEP.

Another point of interaction is that the Chairman of EGPC heads the Board of the Petroleum Research Institute. The Managing Director of the Institute (Dr. Selim) sits on the Board of OEP.

B.6 Central Agency for Public Mobilization and Statistics (CAPMAS)

CAPMAS is the central authority for the collection of statistical data. It is headed by Dr. Awad M. Hallouda. It undertakes surveys of all aspects of the Egyptian economy and social structure.

CAPMAS has a great deal of experience in survey techniques. Of particular interest to OEP's work are the annual and tri-annual surveys of industry and the household surveys. These have contained some energy questions that would serve OEP's needs. Dr. Hallouda has offered to cooperate with OEP in modifying current surveys or in conducting special surveys as OEP requires.

Dr. Hallouda is the designated consultant on computer equipment. This has originated from the Scientific and Technical Information (STI) project (discussed below). Dr. Hallouda has offered to provide advice to OEP on the selection of appropriate computer hardware and software.

B.7 Scientific and Technical Information Project

AID is assisting Egypt in the development of a computerized network of data bases, reference materials, and other information in various science and technology areas. Georgia Institute of Technology is handling this activity for AID. It is intended that the network be comprised of a set of nodes, with each node representing a particular type of user (e.g. agriculture, health, industry). The energy node will be one of the first to be put in place and OEP has been designated as the organization responsible for the operation of

the node. This will provide OEP with access to a great deal of technical information. It will also give OEP the opportunity to acquire and operate computer systems.

B.8 Tabbin Institute for Metallurgical Studies (TIMS)

TIMS conducts post-graduate training and applied industrial research in the metallurgical field. There is an extensive professional staff, many at the Ph.D. level, involved in both the teaching and research activities.

Vice Rector Dr. Mahmoud Selim has offered to cooperate with OEP in the conduct of studies, surveys, research, or other areas deemed appropriate. The staff at Tabbin is equipped to carry out energy conservation studies in the metallurgical industries.

Dr. Mohammed Samed Sedawy, a lecturer at TIMS with experience in the aircraft and steel industries, has agreed to work half-time with OEP on industrial conservation programs.

Under the sponsorship of the United Nations Development Programme, an Energy Conservation in Industry Project has been established at TIMS. (A descriptive flyer is in Appendix A4. The project has just gotten started and there are not yet any outputs. An exchange of letters between the Ministry of Industry (which oversees Tabbin) and the Ministry of Petroleum (which oversees OEP) establishes OEP oversight on the activities of the Project. There is a great deal that can be gained from the Project's activities in support of OEP's mission. Likewise, OEP can enhance the applicability and implementation of the research that comes out of the Project.

The staff of TIMS is participating in a training course for energy managers at industrial facilities being held by OEP in early November 1983. This is an indication of how OEP can use the technical skills available.

B.9 National Research Center (NRC)

NRC has an extensive staff of scientists and engineers working in a variety of technology areas. Several are involved in energy research, and there is a specialized solar energy laboratory run by the Center. NRC has a great deal of technical expertise that can contribute to OEP's needs.

Dr. Essan E. Hinnawi, a senior staff member recently returned from

assignment with the U.N. Environment Programme (UNEP) in Nairobi, has agreed to work half-time with OEP. Dr. Hinnawi directed a major UNEP study on the use of traditional fuels in Egypt, Thailand, and the People's Republic of China.

B.10 Academy of Science and Technology

This is a major science and technology organization in Egypt. Among other things, it is the principal body involved in the AID Scientific and Technical Information (STI) Project. Through this organization OEP can utilize a wide range of technical talent in Egypt.

OEP's interaction with the Academy is on several levels. Dr. Abdallah is a member of the Academy and is on the Council of Economic and Administrative Affairs. Deputy Prime Minister, Minister of Petroleum Hilal is head of the Council on Energy and Petroleum Research. Dr. Selim, a member of OEP's Board of Directors, is secretary to the Council on Energy and Petroleum Research.

B.11 Other Organizations

There are a number of other organizations with whom links, both technical and policy, are needed. These are being established by Dr. Abdallah on a continuing basis.

O E P

ORGANIZATION FOR ENERGY PLANNING

CAIRO 1984

OEP Cairo Arab Republic of Egypt
Dr. Hussein Abdallah, Director

Presidential Decree Number 112 of 1983 established the Organization for Energy Planning (OEP) as part of the Ministry of Petroleum but with separate responsibilities and operational authority. The director of OEP (Dr. Hussein Abdallah) reports to the Supreme Council on Energy (SCE) through a board of directors. The chairman of the board of directors is the director of OEP. There are four members on the board (Figure 1) in addition to Dr. Abdallah, representing five organizations in Egypt that impact and are impacted by energy planning and policy.

I. OBJECTIVES

The objective of OEP is to technically support the Supreme Council on Energy by performing integrated energy/economic planning and analyses. The goal of these planning activities is to develop and implement energy programs (projects) that lead to rational energy resource utilization and will assure future economic growth.

II. OEP ORGANIZATIONAL DESCRIPTION

OEP's activities can be grouped into three major components:

- Policy, planning, and analysis;
- Engineering services; and
- Information services.

Figure 2 shows these three components and their subactivities in the OEP organizational.

A. Policy, Planning and Analysis

This activity formulates, ^{and} evaluates, and selects the recommendations that OEP will present to the Supreme Council on Energy, to the inter-ministerial committees and to the other Egyptian organizations. It uses information generated by other OEP activities and by its own studies. It is the multidisciplinary activity within OEP. It has four principal subactivities.

1. Policy Formulation and Evaluation

Formulates and evaluates alternative policies from an economic, legal, social, environmental and implementation perspective.

2. Integrated Planning Analysis

Develops and maintains analytical tools (e.g. economic models, energy supply/demand models, etc.) and uses these tools to conduct energy analyses to provide information for policy studies.

3. Project Formulation and Implementation

Reviews proposed energy project alternatives (e.g. capital investment projects), develops priorities and assists in financing.

4. Research Planning and Coordination

Monitors status of ongoing domestic and foreign energy research efforts and convenes meetings of researchers to exchange ideas.

B. Engineering Services

Provides detailed engineering information in support of OEP's planning needs and provides technical advice and engineering support to energy users and suppliers. It is structured to match the various sectors with which it must deal. Each sector activity (B.1 - B.4) provides advice on energy conservation opportunities, conducts project feasibility studies and identifies research needs.

1. Industrial Energy Services
2. Residential and Commercial Building Services
3. Transportation Services
4. Rural and Agricultural Services
5. Conventional Energy Production Services

Provides OEP with expertise on conventional energy systems. It maintains up-to-date status on current levels of energy resources (oil, gas, coal, nuclear materials, etc.), on existing and planned energy processing and production facilities (e.g. refineries, power plants), and on state-of-the-art supply technologies.

6. Renewable Resource Technology Services

As with conventional energy systems, the purpose of this group is to provide OEP with expertise in the field and not to duplicate existing capability in other organizations. In carrying out these functions, OEP may utilize the capabilities of other energy organizations in Egypt. These functions are to:

- o Maintain up-to-date status on renewable resource projects,
- o Conduct feasibility studies on various renewable resource systems,
- o Provide technical advice on renewable resource systems,

- o Maintain status on state-of-the art renewable resource technologies, and
- o Identify research needs.

C. Information Services

Designed to assemble the information and data necessary to support OEP efforts and to disseminate OEP information to those needing it.

1. Data Assembly and Analysis

Main data gathering function of OEP. It's function is to gather information on energy use, conduct statistical analysis and screening of data, assemble nonenergy data necessary to support OEP studies, and coordinate with data-gathering functions in other organizations.

2. Library Services

This the information-handling function of OEP. The group develops and maintains a library for OEP, assembles appropriate reports, papers, periodicals from local and foreign sources; maintain access to information data bases (local and foreign); and conducts literature searches.

3. Computer Support

This group maintains and operates computer equipment, and provides computer programming support.

4. Training

The group plans and implements training programs for OEP staff and outside personnel (e.g. plants operators, drivers, general public) and prepares training materials.

III. ACTIVITIES

OEP is a new organization and therefore will be undertaking a large number of institution building activities during 1984, but there are three major projects that will be the primary focus of OEP in 1984.

A. Industrial Energy Conservation Project

The objective of this project is to begin the implementation of energy conserving measures in industrial facilities in Egypt. The focus will be on achieving measurable energy savings at reasonable costs.

Objectives

The objective of this project is to begin the implementation of energy conserving measures in industrial facilities in Egypt. The focus will be on achieving measurable energy savings at reasonable costs.

Activities

The four major activities in this project are:

1. Develop and Implement an Industrial Energy Audit Program;
2. Develop Industrial Energy Efficiency Projects and Policy Plan,
3. Develop and Industrial Energy Data Base, and
4. Develop an Industrial Energy Use Training Program.

B. National Energy Analysis

Objective

The objective of this project is to establish within OEP the first stages of an energy analysis capability. The focus will be on the development of an energy consumption data base including both supply and demand information and to choose the initial set of energy planning analysis tools for OEP to use.

Activities

The four major activities in this project are:

1. Development of the Network Energy Tracking System
2. Data Base Assembly
3. Energy Planning Model Evaluation
4. Initial Energy Model Implementation

C. Energy Information Project

Objective

Develop a nationwide system of energy information services as part of the Egyptian National Scientific and Technical Information (STI) System. The purpose of these services is to manage and provide public access to energy problem-solving data and energy information maintained both locally and abroad, in support of Egypt's social and economic development.

Activities

1. Development and maintenance of an Egyptian energy data base,
2. Maintenance of access to foreign energy data bases,
3. Provide online computer searching of data bases via public telephone network of locally maintained data bases.
4. Maintain a library of publication (journals, books, conference proceedings) for public use.

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OEP

OEP FUNCTIONAL STRUCTURE

