

Power Network System Program



Third Country Training Program

National Electric Power Company
(NEPCO)

In Cooperation With

Japan International Cooperation Agency
(JICA)

2004

INVITATION

National Electric Power Co. (NEPCO) and Japan International Cooperation Agency (JICA) , both are considering the technical training of the manpower for the Iraqi Electrical Engineers from the Ministry of Electricity of Iraq , due to the importance of this type of training in developing and upgrading the manpower in consistence and technical development.

NEPCO and JICA agreed to implement a training Programme in the field of Power Network System at the National Control Center, starting from end of March, 2004.

Since the field of Power Network System is one of the fields that always need developing the individual and collective skills among the staff who are working in this field, in order to cope with the quick development in the electric power industry, therefore, we invite you to participate in this course (Power Network System). It is designed for those who are working or expected to be working in this field.

We trust this program will be of interest to the Ministry of Electricity of Iraq and hereby invite the Ministry to nominate their candidates.

Resident Representative

JICA Jordan office

Morikawa Hideo




Manager NCC

Eng. Jalal Ahmad



Manager NEPCO International

Eng. Riyad Kazam



PROGRAM OBJECTIVES

The purpose of this program is to provide the participants with the necessary theoretical information and practical skills in the field of :

- Power System Operation and Analysis.
- Control Systems Installation, Operation, and Maintenance .
- Communication Systems Installation, Operation, and Maintenance including Carrier & Fiber Optic cabling.



PARTICIPANTS

The number of participants shall be as follows:

- Operation and Power System Analysis : twenty (20) candidates (divided in to four batches)
- Control System Installation, Operation and Maintenance: ten (10) candidates (divided in to two batches)
- Communication Systems Installation, Operation and Maintenance including Carrier and Fiber Optic: ten (10) candidates (divided in to two batches)

Applicants for the Course shall:

- Be presently engaged in/or expected to be engaged in the future, in one the fields of this training programme.
- Be nominated by Ministry of Electricity of Iraq Have university degree or community college diploma, with at least three (3) years experience in power network system.
- Have a good command of spoken and written English.
- Be under forty (40) years of age.
- Be in a good health , both physically and mentally, in order to complete the course.
- Not be serving in the military.

PROGRAM MANAGEMENT AND TRAINING STAFF

The training program is carried out under the supervision and financed by JICA, and direct management of National Electric Power Company (NEPCO) of Jordan.

All instructors and lecturers from NEPCO who have considerable Professional experience will implement this program.

TRAINING AND PROGRAM

The participants will have theoretical lectures and practical applications covering the following topics:

Operation and Power System Analysis

1- Lectures

1-1 *Historical background about the Jordanian Electrical System.*

2 - Practice :

2-1 *Economical operation of the generating units.*

2-2 *Programs for importing electric energy from the interconnected countries, and preparing all the correspondences among the Control Centers of the interconnected countries.*

2-3 *Operational tasks including annual maintenance programs, reception of the shutdown requests, and preparing the steps of the operational tasks.*

2-4 *Faults including faults maintenance and fault report*

2-5 *Energizing New Equipment:*

2-6 *Power System Analysis Software, DigSILENT.*

2-7 *Preparing the annual maintenance program for the generating units and load forecasts for the Power Network.*

2-8 *Distribution of the annual expected energy among all the generating units according to the Economic Dispatch program.*

2-9 *Preparing the calculations of the Scheduled Energy with the interconnected countries and its charges, and preparing the calculation of the Advertent Energy.*

Control System

1- Lectures :

1-1 *Introducing the Control Systems Department, its responsibilities, duties, and accomplishments.*

1-2 *Historical background about the evolution of the SCADA Control System.*

1-3 *Overview of the Control System, (hardware and software)*

1-4 *General description of all the devices and equipment needed for the data acquisition and system stability.*

1-5 *Brief description of the Data Base Management System (DBMS)*

2- Practice :

2-1 *Workshop for adding a new substation to the SCADA System.*

2-2 *Commissioning, installation, and operation of a new RTU.*

2-3 Visiting a 400 kV substation.

Communication System

1- Lectures :

1-1 Carrier Communication Network.

1-2 Fiber Optics Communication Network

1-3 NEPCO, CEGCO, and EDCO private Telephony Network.

2- Practice:

2-1 Visiting Amman South substations. 2-2 Installation and the operation of a Carrier equipments in a substation.

2-3 The commissioning and the installation of fiber optics cables at different substations.

2-4 Live installation of fiber optics cables showing the splicing and the joining procedure of such cables.

DATE AND PLACE OF THE PROGRAM

The program will take place at the end of March 2004 , in the workshops and training facilities of the National Control Center (NCC) 15 km south of Amman. The program management will provide each participant, two way travel tickets from Iraq to Jordan.

ACCOMMODATION

A suitable hotel accommodation will be arranged for every participant

SITE VISITS

The program management will arrange study tours to some of NEPCO sites and local factories and electrical utilities, related to the program.

HEALTH CARE

The program management will provide health care for all participants within the regulation applied at NEPCO, in addition to life insurance covering the participants from their arrival to Jordan, until their departure, in accordance with NEPCO regulations.

PER-DIEM

Each participant will be paid daily subsistence equivalent to approximately US\$(25) by JICA, upon arrival to Amman .

TRANSPORTATION

The program management will arrange a proper two-way transportation from the hotel to the NCC , and a proper transportation will be arranged during the site visits

PHONE CALLS

The participants may make their private local and long distance phone calls, from the hotel and the hotel will charge every participant according to the special tariff laid down.

APPLICATION PROCEDURES

The application should be made on the special form which is attached to this pamphlet, the duly completed application form should be in two copies, and should be sent to the Jordanian Ministry of Planning through the diplomatic channels, with Copies to NEPCO and JICA.

SELECTION OF PARTICIPANTS

NEPCO and JICA will select (5) officially nominated candidates for every course among those who apply before the closing date. NEPCO will notify the selected participants through the Jordanian Ministry of Planning and JICA International Cooperation.



CERTIFICATE

All participants who will complete the program's requirements and pass the program exam, will have a certificate credited by JICA and NEPCO.



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