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FINAL REPORT

ON

PHASE - I OF DEVELOPMENT AND OPERATION OF INDUSTRIAL INFORMATION SYSTEM

SUBMITTED TO

UNITED NATIONS DEVELOPMENT ORGANIZATION

BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

D. HAJJAH, 1411

JUNE, 1991
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1. INTRODUCTION
1. INTRODUCTION

The Consulting Center for Finance and Investment provided consultancy services to United Nations Development Organization in carrying out Phase-I of the project on Development and Operation of Industrial Information System for Ministry of Industry and Electricity.

Following main tasks were performed during this phase:

i) Identification of user requirements for development of Industrial Information System.

ii) Development of Conceptual Industrial Information System

iii) Preparation of Computer System Specifications

iv) Preparation of bid document for purchase of computer systems

v) Organization structuring of Computer Department

vi) Supervision and acceptance of Computer System Installation


Detailed reports were submitted at the end of each of these tasks. Annexures are enclosed alongwith, which provide the outline of these reports. Following sections give brief summary of each of these tasks.
2. IDENTIFICATION OF USER REQUIREMENTS
FOR DEVELOPMENT OF INDUSTRIAL
INFORMATION SYSTEM
2. IDENTIFICATION OF USER REQUIREMENTS FOR DEVELOPMENT OF INDUSTRIAL INFORMATION SYSTEM

Information requirements of all MIE Departments were studied by interviewing all concerned personnel. The objective of interviewing was to understand the activities of each of the Department, their information needs, need for computerizing the routine work, intra-departmental and inter departmental information flow.

Ministry of Industry and Electricity consists of three agencies, Industrial Affairs Agency, Financial and Administrative Affairs Agency and Electrical Affairs Agency. The information requirements of each of these agencies are presented below.

Requirements of Industrial Affairs Agency

Information requirements were presented in the order of Departments.

Industrial License Department

Industrial License Department needs information about products, factories, industrial licenses, imports, investors, exemptions, license follow up details.

Industrial Cities Department

Industrial Cities Department needs information about factories, follow up details for implementation of projects, allocation of land, management of land contract.
Engineering and Projects Department

Engineering and Projects Department needs information about monitoring of maintenance of industrial cities, billing for maintenance of industrial cities, maintenance of buildings, maintenance of facilities, preventive maintenance, storage and retrieval of engineering drawings.

Protection and Encouragement Department

Protection and Encouragement Department needs information about licenses, products, factories, assessment of value added, manpower employed, dumping policies, SASO specifications, exemptions, imports, protected products, commercial agreements, gulf factories, international exhibitions and trade fairs.

Industrial Statistics Department

Industrial Statistics Department needs information about licenses, factories, exemptions, tools for doing statistical research.

Foreign Capital Investment Bureau

Foreign Capital Investment Bureau needs information about joint venture projects, foreign countries, imports and exports, commercial agreements, exemptions, follow up details for joint/foreign venture projects.

Export Promotion Department

Export Promotion Department needs information about country profile, imports and exports, factories, commercial agreements, access to Export Development Center at Chamber of Commerce.
Requirements of Financial and Administrative Agency

Information requirements are presented in the order of Departments.

Financial and Administrative Affairs Department.

Financial and Administrative Affairs Department needs following information systems to meet their requirements.

- General ledger system
- Tenders and procurement system
- Stores inventory control system
- Budget control system
- Fixed assets accounting system.

Personnel and Payroll Department

Personnel and Payroll Department needs a Personnel Information System and a Payroll System.

REQUIREMENTS OF ELECTRICAL AFFAIRS AGENCY

Information requirements are presented in the order of Departments

Studies and Statistics Department

Studies and Statistics Department needs information on statistics of power generation and distribution, computer tools to analyze efficiency of power transmission and load distribution.
Companies Finance Control Department

Companies Finance Control Department needs a database of electrical companies to store their financial details and subsequently analyze the performance of these companies.

Companies Technical Control Department

Department needs following systems:

- Documents storage and retrieval system
- Maintenance of design tables
- CAD package
- Access to network of electrical companies
- Access to international networks.
REPORT ON
IDENTIFICATION OF USER REQUIREMENTS
FOR DEVELOPMENT OF
INDUSTRIAL INFORMATION SYSTEM

PRESENTED TO
UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

PREPARED BY
THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

SHABAN 1409  
APRIL 1989

P.O.Box: 2462 Riyadh 11451 · Saudi Arabia · Telephone: 4782525 · Telex: 402690 SCC SJ / 404256 SCTM SJ
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* * * *

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3. DEVELOPMENT OF CONCEPTUAL INDUSTRIAL INFORMATION SYSTEM
3. DEVELOPMENT OF CONCEPTUAL INDUSTRIAL INFORMATION SYSTEM

Industrial Information System will consist of four main databases, namely,

Licensed Industrial Database
Licensed Non-industrial Database
Product Market Database
Country Profile Database

THE LICENSED INDUSTRIAL DATABASE

The licensed Industrial Database will contain information about all the licensed industrial factories including local, joint or foreign venture factories. The information about operating as well as non-operating factories is maintained in the database.

The information relates to all the aspects of an industrial factory such as its identification details, industrial activity, licensed capacity, license follow up details, installed capacity, raw materials, machinery, manpower, land and buildings details, water and electricity, actual production, financial details, exemptions details, sales information and export activity.

Currently, there are approximately 2000 factories. Maximum expected growth rate is approximately 200 factories per year. The database will maintain the data for each of the factory over the last five years.
THE LICENSED NON-INDUSTRIAL DATABASE

The information about joint or foreign venture non-industrial projects is separately maintained in the Licensed Non-industrial Database.

The information consists of license number, name of establishment, commercial registration number, non-industrial activity, legal status, distribution of project capital, financial details and follow up information.

Currently, there are approximately 200 non-industrial establishments. Expected growth rate is 20 establishment per year. Information will be maintained for the last five years.

THE PRODUCTS MARKET DATABASE

The Products Market Database will have the information about all the products manufactured locally as well as imported. The database will maintain the information relating to the market demand of the product, local market price, whether protected or not, customs duty rate, raw materials used in manufacturing the product, export and re-export details.

There are about 2500 products that are imported, exported, or re-exported from/to 60 different countries. The increase in number of products will be marginal. The data will be maintained for the last 5 years.
THE COUNTRY PROFILE DATABASE

The database will contain the valuable information about foreign countries with which Kingdom has got economic and commercial relations. This information will assist in identifying the potential for exports or for encouraging joint ventures viz-a-viz controlling dependence on the imports.

The database will contain information about maximum of 150 countries. The historical information will be maintained for the last five years.
REPORT ON

CONCEPTUAL INDUSTRIAL INFORMATION SYSTEM

PRESENTED TO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PREPARED BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

RAMADAN 1409

APRIL 1989
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*** * ***

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4. PREPARATION OF COMPUTER SYSTEM SPECIFICATIONS
4. PREPARATION OF COMPUTER SYSTEM SPECIFICATIONS

In order to meet the information requirements listed in conceptual design of Industrial Information System, computer resources required were analyzed and computer system specifications were prepared.

HARDWARE RESOURCES

- Central Processing Unit
- Disk drive requirement
- Magnetic tape drive requirement
- Terminals
- Dot matrix printers
- Laser printers
- Plotters
- Line printer
- Modems
- Personal computers

SOFTWARE RESOURCES

- Operating System Software
- Storage management
- Performance monitor
- Scheduling monitor
- Hardware diagnostic monitor
- Network design aids
- Program library control monitor
- File management software
- Communication software
- Utilities
Programming languages
Application generator
Editor
Screen management software
Database management software
Data dictionary
Database analysis and design tools
Statistical analysis package.

SITE PREPARATION

Space requirements
Power requirements
Lighting
Flooring
Ceiling
Cabling
Air-conditioning
Safety
REPORT ON

COMPUTER SYSTEMS SPECIFICATIONS

PRESENTED TO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PREPARED BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

D. QA'DA 1409 JUNE 1989
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5. PREPARATION OF BID DOCUMENT FOR PURCHASE OF COMPUTER SYSTEMS

Request for proposal (bid document) was prepared and sent to number of recognized vendors. The bid document consisted of Technical Specifications and various other forms and annexures which vendors were expected to fill up. Draft contract was also prepared for agreement with vendors.
INVITATION FOR BID PROPOSALS FOR PURCHASE OF COMPUTER SYSTEM UNDER UNIDO PROJECT DP/SAU/86/004 IN THE MINISTRY OF INDUSTRY AND ELECTRICITY

ISSUED BY
UNited Nations Industrial Development Organization (UNIDO) & The United Nations Development Programme (UNDP) in association with the Ministry of Industry and Electricity (MIE)

PREPARED BY
UNIDO and MIE with the assistance of the Consulting Center for Finance and Investment (CCFI)

RIYADH
SAUDI ARABIA

D. QA'DA 1409
JULY 1989
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6. EVALUATION OF PROPOSALS RECEIVED FROM THE VENDORS

All proposals received from the vendors were critically evaluated by the committee. CCFI had prepared evaluation criteria and weighting system for evaluating the proposal. CCFI was also part of the committee. CCFI provided technical assistance to committee members.

The evaluation committee submitted a report on "Evaluation of bid proposals for purchase of Computer System".
7. ORGANIZATION STRUCTURING OF COMPUTER DEPARTMENT
CCFI studied organization structuring requirements of the Computer Department of the Ministry and made following recommendations.

a) Computer Department should report to Asst. Deputy Minister for Industrial Affairs.

b) Computer Department will be headed by a Director - Computer Department to whom Manager - Application Systems Section and Manager - Computer Systems Section will report.

c) Manager - Application Systems Section will direct the work of systems analysts, application programmers, assistant application programmers and data entry operators.

d) Manager - Computer Systems Section will direct the work of system programmers and Computer operators.

e) Following number of personnel will be required to manage the computer department efficiently.

<table>
<thead>
<tr>
<th>Position</th>
<th>Required</th>
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<tbody>
<tr>
<td>Director - Computer Department</td>
<td>1</td>
</tr>
<tr>
<td>Manager - Application Systems Section</td>
<td>1</td>
</tr>
<tr>
<td>Manager - Computer Systems Section</td>
<td>1</td>
</tr>
<tr>
<td>System Analysts</td>
<td>2</td>
</tr>
<tr>
<td>Application Programmers</td>
<td>4</td>
</tr>
<tr>
<td>Asst. Application Programmers</td>
<td>2</td>
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<tr>
<td>System Programmer</td>
<td>1</td>
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<tr>
<td>Computer Operators</td>
<td>2</td>
</tr>
<tr>
<td>Data Entry Operators</td>
<td>2</td>
</tr>
<tr>
<td>Typist/Secretary</td>
<td>1</td>
</tr>
<tr>
<td>Office boy</td>
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f) Job descriptions were prepared for each of the different jobs in Computer Department.
ORGANIZATIONAL STRUCTURE
OF
COMPUTER DEPARTMENT

PRESENTED TO

UNITED NATIONS INDUSTRIAL
DEVELOPMENT ORGANIZATION

PREPARED BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

SAFAR 1410 SEPTEMBER 1989
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Computer System installation was supervised by CCFI in order to ensure that all hardware and software components are delivered in acceptable condition and are functioning as per the specifications agreed upon in the agreement between UNIDO and ARDICO.

After the installation of computer hardware and software, following acceptance procedures were carried out.

- Physical and technical verification of hardware and software items
- Hardware tests
- Software tests
- System connectivity tests
- Integrated system test
- Assessment of training.

List of all items delivered was prepared. The missing items were notified for UNIDO to follow it up with M/s. ARDICO.
REPORT ON

ACCEPTANCE OF SITE PREPARATION WORK

SUBMITTED TO

UNITED NATIONS DEVELOPMENT ORGANIZATION

PREPARED BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

SHABAN, 1410

MARCH, 1990
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R. THANI, 1411

OCTOBER, 1990
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9. ACCEPTANCE TEST REPORT
9. ACCEPTANCE TEST REPORT

An acceptance tests were carried out and results of those tests were presented in a "Acceptance Test Report".

ACCEPTANCE TEST REPORT

PRESENTED TO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PREPARED BY

THE CONSULTING CENTER FOR FINANCE AND INVESTMENT

R. AWAL, 1411

OCTOBER, 1990
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