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## Alexandria Electricity Company Reengineering

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**File:** GA6.2/  
815-031

**TASK:** Alexandria Electricity Company Reengineering  
IQC Task Order 815

Alexandria,  
20 February 2002

**SUBJECT:** Indefinite Quantity Contract (LAG-I-00-98-00006-00-815)  
Quarterly Report for the period October - December 2001

Please find attached the quarterly report for the Alexandria Reengineering of the Alexandria Electricity companies project for the subject period.

Sincerely Yours,



Ramses Khalil  
Chief of Party

23865-815-0003

# Alexandria Electricity Company Reengineering Project

## Quarterly Report

### October - December 2001

## 1.0 Introduction

### 1.1 Summary

- **Activities.** Significant progress was made in completing "Process Mapping" which is the significant first phase of reengineering. Key activities included:
  1. Development of formal plans to map AEDC/WDPC processes (including identification of processes to be mapped, departments involved, identification of section heads and staff involved, requesting interview permission, establishing the "persons-to-interview" list, consolidating plan data),
  2. Gathering data/conducting interviews needed to map the various processes
  3. Development of draft process maps
  4. Refinement of process maps

Training courses included: Process Mapping, Benchmarking, and Business Process Improvements/BenchMarking (Course #2).

Consultant visits focused on teaching courses and assisting the Work Teams to analyze their findings and refine their process maps.

- **Issues.** Continuing issues include the restructuring of AEC into WDPC and AEDC which has added to the complexity and level of effort required (Nexant continues to respond to the needs of each company while maximizing the efficient use of training resources); the linkage between cost accounting and the other accounting processes (Nexant continues to respond by providing support and tools for reengineering linked accounting processes); and the de-emphasis of Billing and Collection in favor of promoting Inventory Management and Procurement to this phase (Nexant has responded as best possible with existing resources but additional resources will be required to provide the comprehensive solution required).

New issues included: requested expansion of Maintenance Management reengineering from the Abu Qir pilot plant to the other six WDPC plants (Nexant is responding as best possible with existing resources); the need to convert and transfer existing maintenance data from the old system to the new (Nexant is working with the software and training vendor to accomplish this); the lack of data on plant equipment needed for the new software solution

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(Nexant is working with the software and training vendor and plant personnel to gather this data in advance of training); need for timely installation of IT infrastructure by AEDC/WDPC (Nexant is providing assistance to expedite the process and is working with the training provider to work around a possible delay without reducing training effectiveness); a delay in the Change Management Course when AEDC/WDPC could not provide the needed advance participant lists (Nexant worked with DT2 to reschedule the course to January); the delay in finalizing process mapping due to the Ramadan reduced work hour schedule (Nexant is providing technical assistance to ensure that the maps are finalized during January 2002); and the delay in software procurement resulting from the process to finalize/affirm the decision to deploy EMPAC and to procure software through GSA mechanisms (Nexant has arranged with the training provider to supply interim licensed software for training purposes).

- **Anticipated Activities** for the next quarter include: finalization of process maps; completion of "walk-throughs" to verify process map accuracy; initiating of the Measurements, Standardization and Benchmarking phases of the project; completion of the procurement of software by Nexant and training by DT2; installation by AEDC/WDPC of the IT infrastructure required; revision/update of the Training Plan; and revision/update of the Work Plan.

Anticipated training includes: Benchmarking, Change Management, software training for Oracle and EMPAC, Introduction to Activity Based Costing, final cycle of Basic Cost Accounting, Effective Communications, Accounting Reengineering Awareness Seminar for Financial Executives of other Egyptian Electricity Companies, Marketing Energy Efficiency Services, and additional awareness training as needed.

- **Staff.** Robert Johnson, Accounting and Financial Specialist resident in Egypt, joined the Nexant team to assist with reengineering Cost Accounting and the linked accounting processes. Mr. Mohsen Tantawi, Purchasing Specialist resident in Egypt, joined the team to assist with reengineering the procurement processes at AEDC and WDPC.
- **Progress.** The start of Oracle/EMPAC training was delayed about two weeks due to administrative delays. The Change Management course had to be rescheduled from November to January, and completion/finalization of the process maps was delayed by the Ramadan reduced work week. Nexant will strive to minimize the impact of these delays.
- **Supporting Information.** A copy of the custom training manual for Business Process Improvements/Benchmarking (Course #2) has been provided to partners to illustrate the comprehensive nature of the training being provided.  
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- **Schedule.** The current project implementation schedule is attached.

## 1.2 Background

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The Ministry of Electricity and Energy has committed to reform Egypt's electric power sector from the current publicly owned and operated system toward a more competitive, market-driven system. A number of activities have been completed and others are currently under way for institutional strengthening, legal and regulatory improvements, energy efficiency, and environmental protection. Still to be addressed is the technical, financial and commercial performance of the electricity companies owned by the Egyptian Electricity Holding Company (EEHC).

Reengineering is an effective response to the external changes to which the electricity companies are being subjected, such as competition from independent power producers and the trend toward privatization. Instead of a massive reengineering program to reform all electricity companies simultaneously, USAID and EEHC chose to initially implement a pilot effort with one electricity company before extending the program to other companies. The Alexandria Electricity Company (AEC) was chosen for the reengineering pilot program.

A number of events have occurred during this initial period that impact the project environment. The most significant are:

**Sector Reorganization.** In early July the Egyptian power sector was reorganized: AEC was corporatized into the West Delta Production Company (WDPC) and the Alexandria Electricity Distribution Company (AEDC). The impact has been increased project complexity since the scope of work must now be applied to two separate organizations. This includes the need for Nexant to collaborate/coordinate/negotiate with two sets of upper management counterparts. Some project activities can still be conducted in a combined manner, but others cannot.

**Recognition of Accounting Linkages.** The highest priority of the project is to reengineer the Cost Accounting processes at WDPC and AEDC. However, Cost Accounting is tightly linked to a number of supporting accounting processes, and it has been recognized that these supporting processes must themselves be reengineered if Cost Accounting is to be effectively reengineered.

**Changed Emphasis of Project Scope Component.** The business process/functions initially chosen for the Phase I reengineering of the former AEC were:

- Cost Accounting

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- Power Plant Maintenance
- Alternate Revenue Sources (including energy conservation)
- Billing and Collection

WDPC and AEDC requested that emphasis be reduced on reengineering of the Billing and Collection at this time and that Inventory and Procurement be emphasized by elevating them to Phase I. Thus, the processes to be emphasized for reengineering are:

- WDPC: Cost Accounting  
Maintenance Management  
Inventory Management and Procurement/Purchasing
- AEDC: Cost Accounting  
Inventory Management and Procurement/Purchasing  
Alternate Forms of Revenue

This quarterly report covers the period of October through December 2001.

## **2.0 Activities**

### **2.1 Progress / Decisions / Milestones**

Significant progress has been in completing "Process Mapping" which is the significant first phase of re-engineering. Process maps describe, in workflow diagrams and supporting text, every vital step of the processes to be reengineered. The object is to develop a non-judgemental "As-Is" understanding of the AEDC/WDPC processes. The Work Teams traced the process of converting an input through all the intervening steps under the final required output. The process maps show how all functions are involved and allow the Work Teams to identify all critical interfaces, overlay the time to complete various sub-processes on the process map, start to define opportunities for improvements, and identify "disconnects" (illogical, missing, or extraneous steps) in the process.

#### **Cost Reengineering**

- Both the AEDC and WDPC Cost Accounting Work Teams attended a four day Process Mapping Training course prior to beginning the process mapping.
- The Work Teams then developed a formal plan to map AEDC/WDPC processes, including:

Identifying the cost flows (payroll, inventory, maintenance, etc.) by reviewing the organization chart to determine which departments/sections/etc. are involved;

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Contacting key persons in the department/section/etc. to ask which persons under their control were involved in the process and requesting permission to schedule an interview; and,

Establishing the initial "persons-to-interview" list.

The Work Team leaders consolidated the above information and created a table that listed the 27 AEDC/WDPC cost flows to be mapped; AEDC/WDPC staff involved and assigned Work Team member responsibility

- The Work Teams gathered data and interviewed staff participating in the various processes during October and November.
- The Work Teams developed draft process maps during the latter part of November and December. This includes the actual creative process of drawing the process map diagram and includes listing of data elements and preparing preliminary sketches.
- The Work Teams refined the process maps during December 2001 (continuing into January 2002) with a focus on graphical editing and rearranging the description of the process activities for clarity.

**Maintenance Management Reengineering**

(including Inventory Management and Procurement)

- Both the WDPC Maintenance Reengineering Work Team and the AEDC Inventory and Procurement Work Team attended a four day Process Mapping Training course prior to beginning the process mapping.
- The Work Teams then developed and implemented a formal plan to map AEDC/WDPC processes, including:
  - Identifying the maintenance, inventory and procurement processes to be mapped.
  - Identifying the departments/sections involved
  - Contacting the key section heads to determine the identities of staff involved in the processes identified
  - Requesting permission to schedule interviews
  - Establishing the initial "persons-to-interview" list;
  - Contacting key persons in the department/section/etc. to ask which persons under their control were involved in the process and requesting permission to schedule an interview; and,
  - Establishing the initial "persons-to-interview" list.

The Work Team leaders consolidated the above information.

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- The Work Teams gathered data and interviewed the "process experts" during October and November.
- The Work Teams developed initial process maps during November. For Abu Qir, this including mapping the existing maintenance work order flow following interviews with the staff of each maintenance department directly involved in executing work orders.
- The Work Teams refined the process maps during December 2001 (continuing into January 2002) with a focus on graphical editing and rearranging the description of the process activities for clarity.
- During this period, Nexant agreed, in a response to a WDPC/AEDC request, to undertake expanding the original scope of the Maintenance Management reengineering effort from the Abu Qir pilot site to the six other WDPC power plants (Damanhour, Mahmoudia, Siouf, Kafr El-Dawr, Sidi Krir, and Mersa Matrough) and the 20 AEDC warehouses. Nexant consultants visited the first five plants listed to assess maintenance management practices and the existing IT resources available (networks, PCs, cabling, human resources, etc.) that could support deployment of the maintenance management software tool. Nexant will formally propose to USAID a project expansion to address additional resource requirements.
- Nexant provided specifications for the IT equipment (LAN servers, workstations, cabling, network operating systems) to be procured by WDPC and AEDC to support deployment of the accounting and maintenance management software packages.
- Nexant initiated procurement for software (Oracle for Cost Accounting and linked accounting functions and EMPAC for maintenance management, inventory management and procurement)
- Nexant provided the information required for DT2 to initiate procurement of training (classroom and implementation) for Oracle and EMPAC.

**2.2 Training**

- Process Mapping
  - Oct 7-11 AEDC Inventory & Purchasing Work team
- Benchmarking
  - Oct 13-17 AEDC Cost Accounting Work Team
  - Oct 21-25 WDPC Cost Accounting Work Team
  - Oct 28-31 AEDC Alternative Revenue Work Group
- Business Process Improvements / Benchmarking

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Oct 30-Nov 4    WDPC Cost Accounting Work Team

Nov 5-8        AEDC Cost Accounting Work Team

No training activities were scheduled for December to accommodate the Ramadan reduced work hour schedule.

**2.3 Visits of Short Term Consultants**

- Frank Cajthaml, Carana Corporation. Two extended visits covering most of October, November and through December 15 to teach the courses listed above and to assist the Work Teams in analyzing their findings and refining process maps.
- Mafouz Fargall and Hani Istafenous, Bechtel IT/Networking Specialists performed preliminary network site surveys at WDPC/Abu Kir and AEDC/Sidi Metwalli respectively and provided networking recommendations.
- Bob Johnson, Nexant Financial/Accounting Specialist, made several visits to assist the Accounting Work Teams in analyzing their process mapping findings.
- Mohsen Tantawi, Nexant Procurement Specialist, made several visits to assist the WDPC Maintenance Work Team and the AEDC Inventory and Procurement Work Team in analyzing their process mapping findings.

**2.4 Cash Flow Status**

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**3.0 Major Issues and Resolution**

**3.1 Continuing Issue - Restructuring of AEC into WDPC and AEDC**

- Issue. The restructuring of AEC into WDPC and AEDC continues to contribute to increased project complexity and level of effort.
- Resolution: Nexant continues to make special efforts to collaborate, coordinate, and negotiate with the two sets of upper management now involved regarding activities and scheduling. This includes emphasis on recognizing the unique evolving requirements and culture of each company. Where appropriate, Nexant has combined software procurement and related training for the two companies, as well as reengineering training to minimize the additional level of effort required and benefit from economies of scale.

**3.2 Continuing Issue - Linkage between Cost Accounting and other accounting processes**

- Issue. The highest priority of this project is to reengineer the Cost Accounting function. However, as indicated in the previous quarterly report, reengineering the Cost Accounting process cannot be done in isolation due to the extensive integrating links to other accounting processes.
- Resolution. Nexant continues to assist in reengineering the linked accounting processes by ensuring that the reengineering training can be applied to both Cost Accounting and the processes linked to it. Additionally, the software accounting tool presently being procured (Oracle General Ledger), was selected to support both Cost Accounting as well as the linked accounting processes.

**3.3 Continuing Issue - Change of Emphasis**

- Issue. As indicated in the previous quarterly report, almost immediately after project initiation, AEDC requested that Billing and Collection be de-emphasized due to progress already been made in that area, and both AEDC and WDPC requested that Inventory Management and Procurement be promoted to the current phase of the reengineering project.
- Resolution. Nexant continues to address Billing and Collection, but through reengineering the accounting processes (supported by the Oracle Financials package to be deployed at both WDPC and AEDC.) Nexant is presently in the process of procuring a software tool (Indus EMPAC) that supports both reengineering Maintenance Management process at WDPC as well as the Inventory Management and Procurement processes at both WDPC and AEDC. Extensive training, both classroom and implementation, will be provided. Since some aspects of inventory and purchasing are common to both AEDC and WDPC, the training will be combined when possible to minimize the additional level of effort required. The Process Mapping training provided to WDPC and AEDC can also be applied to the inventory and purchasing processes.

**3.4 Expansion of the Maintenance Management Reengineering Task**

- Issue: The initial agreement with WDPC called for Nexant to support reengineering of the WDPC Maintenance Management Process through implementation of a pilot reengineering program at the Abu Qir power plant. WDPC subsequently requested that Maintenance Management process also be reengineered at the six other WDPC power plants.
- Resolution: Nexant continues to collaborate with WDPC to accommodate this request. WDPC agreed to provide all the IT infrastructure needed to support deployment of the Indus EMPAC Maintenance Management package at all

WDPC plants, including the Abu Qir pilot site. After approval by USAID to transfer DT2 training funds from the Power Pool Project to the Reengineering project, Nexant is in the process of adding the additional licenses required to deploy EMPAC at all WDPC plants (as well as at AEDC) to the software procurement action. Nexant continues to work with the software training vendor to develop training for the Abu Qir pilot site that can include representatives from the other WDPC plants and AEDC such that only incremental training required at the other WDPC plants and AEDC.

### **3.5 Maintenance Management Package Data Conversion**

- Issue: Nexant originally understood that no computerized maintenance management system existed at Abu Qir, the pilot site. However, it was later determined that an old version of the Amplissima maintenance management software package was in use at the plant, meaning that data must be transferred from the old to the new system.
- Resolution. Nexant has worked with the software and training vendor in analyzing the needs and complexities of the data transfer to ensure that the software and training vendor will provide the resources necessary to transfer the data.

### **3.6 Lack of Data Required for Maintenance Management**

- Issue. A detailed analysis of the existing maintenance management system at Abu Qir indicates that the data for many subsystems and pieces of equipment is incomplete. These data are required for the maintenance management software package to function properly. Gathering this information is a time consuming process.
- Resolution. In advance of system software training, Nexant has begun working with the software and training vendor to determine both the information required and the format in which it must be provided. Nexant will then coach plant personnel in gathering this information from various sources, including plant records and construction drawings.

### **3.7 Timely installation of IT infrastructure**

- Issue. Nexant provided specifications to AEDC and WDPC for the IT infrastructure required to support deployment of Oracle and EMPAC. The procurement process and subsequent installation of this equipment may not be completed by the time software training begins.
- Resolution. Nexant will provide technical assistance to finalize procurement specifications and support/facilitate the procurement process. Nexant has communicated the possibility of a several week delay in installation to the training provider, who is taking steps to schedule training around this situation (e.g., scheduling to focus more on classroom training in the beginning, making use of the existing IT training classroom).

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**3.8 Delay in Change Management Training**

- Issue. Change Management training was originally scheduled for November 2001, but AEDC/WDPC were unable to provide advance participant lists in the required timeframe.
- Resolution. Nexant collaborated with the IIE/DT2 project to shift the Change Management Course to 27 January 2002. This should have no negative impact on the project.

**3.9 Delay in Completion of Process Mapping.**

- Issue. Refine and Finalization of process mapping was delayed by the Ramadan reduced work hour schedule.
- Resolution. Nexant will provide technical assistance to assist the Work Teams in completing their process maps in January 2002.

**3.9 Delay in Software Procurement**

- Issue. The procurement of the Oracle and EMPAC software is linked, but the administrative process could not be initiated until the choice of EMPAC was finalized in late September. Nexant worked extensively with the software vendor, as well as the regional representative of EMPAC and the Washington representative of Oracle, to seek a way to put a local vendor on GSA schedule to facilitate procurement or to procure the software in the US under GSA pricing, but have a local organization provide the technical support. Neither EMPAC nor Oracle were able to work this out, so Nexant must initiate a standard local procurement.
- Resolution. Nexant has negotiated with the training provider to supply interim licensed software for training purposes if the Nexant-procured software has not arrived in time.

**4.0 Anticipated activities for the coming quarter**

- The Work Teams will finalize the process maps (January 2002)
- The Work Teams will conduct "Walk-Throughs" during January 2002 to ensure accuracy of the process maps. The Work Teams will physically follow the exact course of a particular process on a step-by-step basis to confirm that the process maps reflect reality. This will require talking to the relevant staff involved in each particular task of the process and assessing what they actually do to complete the task.
- The Measurements, Standardization and Benchmarking phases of the project will be initiated during the upcoming quarter, building on the course entitled Business Process Improvements/Benchmarking completed during October-November 2001 (this course was also designed to facilitate the Walk-Through phase).

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- Procurement will be completed for software (Oracle for Cost Accounting and linked accounting functions and EMPAC for maintenance management, inventory management and procurement)
- Procurement of training (classroom and implementation) for Oracle and EMPAC will be completed by DT2 in early January 2002.
- AEDC and WDPC will procure and install the IT infrastructure needed to deploy Oracle and EMPAC.
- Revision/update of the Training Plan
- Revision/update of the Work Plan

**Training**

- Benchmarking for the Maintenance, Inventory & Procurement and Alternate Revenue Work Teams (January 2002)
- Change Management for AEDC and WDPC (January 2002)
- Software training for Oracle General Ledger and Indus EMPAC (January start)
- Change Management - AEDC and WDPC (January 2002)
- Introduction to Activity Based Costing - AEDC and WDPC (Feb 2002)
- Best Practices - AEDC and WDPC (January - February 2002)
- Basic Cost Accounting - January 2002 for WDPC - Behaire
- Effective Communications - AEDC and WDPC (February 2002)
- Accounting Reengineering Awareness Seminar for Financial Executives of other Egyptian Electricity Companies - January 2002
- Marketing Energy Efficiency Services - AEDC Alternative Revenue Sources Work Team (March 2002)

**5.0 Contractor Staff**

Two new members were added to the Nexant team during the quarter: Robert Johnson, Accounting and Financial Specialist, and Mohsen Tantawi, Purchasing Specialist. Mr. Johnson will assist with reengineering Cost Accounting and supporting accounting processes, with emphasis on integrating the software tools into the business processes of

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WDPC and AEDC. Mr. Tantawi will assist with reengineering procurement processes at both AEDC and WDPC. Both are resident in Egypt.

## **6.0 Actual versus Scheduled Progress**

The beginning of Oracle/EMPAC training through DT2 was originally envisioned in mid-January, but will now begin on January 27 due to administrative delays.

The Change Management Course originally scheduled for November was delayed until January 2002 as AEDC/WDPC were not able to provide participant lists in time.

Completion/Finalization of the Process Maps was delayed by the Ramadan reduced work hour schedule. Nexant will provide assistance to assure completion during January.

## **7.0 Supporting Information**

A copy of the custom manual for Business Process Improvements/Benchmarking (Training Course #2) has already been provided to all partners to illustrate the comprehensive nature of the training being provided.

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## **8.0 Implementation Schedule update**

The current working version of the project implementation schedule is attached to this report

