

Chapter 10

Effective Implementation and Utilization of CMMS System: Challenges and Solutions

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EXECUTIVE SUMMARY

Computerized Maintenance Management Systems (CMMS) are designed to manage asset maintenance in a professional manner, by means of integrating all related transactions (financial, material, purchasing) and maintenance activities (work requests, work orders) and converting them into high level information to drive users towards best practices and optimize cost and improve asset reliability. However, CMMS will only remain a tool with limited use unless proper attention is given to dynamic data feeding by end-users to build up a reliable asset maintenance history that can be used as a basis for managing assets over the life cycle. This investigation reflects on the challenges encountered in the cases of three UAE CMMS Projects, comparing the effectiveness and suitability of the dynamic data-feeding strategies and approaches adopted in the three cases and the level of business improvement through proper usage and utilization.

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ORGANIZATION BACKGROUND

Abu Dhabi Water and Electricity Authority (ADWEA)

ADWEA is a government organization established in 1999 to implement the long term privatization program of the water and electricity sector on the basis of BOO “Build – Operate – Own” formula, designed according to the partnership agreement made between ADWEA and a number of international companies. ADWEA holds a 60% share of these, while 40% ownership is held by the foreign investor. In accordance with long-term arrangements IWPP’s are committed to sell their production to ADWEC. Some of these international companies are:

- **Emirates CMS Power Company (ECPC):** The company operates a generation and desalination plant at the Al Taweelah site identified as “A2” of licensed capacities 710 MW electricity and 50 migd water.
- **Gulf Total Tractebel Power Company (GTTPC):** The company operates a generation and desalination plant at the Al Taweelah site identified as “A1” with licensed capacities 1350 MW electricity and 84 migd water. The 40% investors’ ownership is shared equally between two international companies, Total Fina Elf and Tractebel.
- **Shuweihat CMS International Power Company (SCIPCO):** The company has been established to BOO a power generation and water desalination facility at Jebel Dhana, near Shuweihat, with licensed capacities of 1,500 MW and 100 migd. CMS owns 20% and International Power owns 20%.
- **Arabian Power Company (APCO):** APC, a private joint stock company, operates and maintains existing power generation and water desalination plants as well as BOO additional production capacity at Umm Al Nar. The licensed capacities are 2,200 MW and 160 MIGD, International Power owns 20%, Tokyo Electricity owns 14%, and Mitsui owns 6%.
- **Fujairah Asia Power Company (FAPCO)—F2:** FAPCO is the second company licensed to operate in Qadfaa at Fujairah with a capacity of 2000 MW of power and desalinates 100 MIGD of water in addition to 30 MIGD of potable water produced by reverse osmosis technology.
- **Shuweihat S2 Power Project:** ADWEA owned power plant, still under construction with anticipated production of 1600 MW of power and 100 MIGD of water. Expected completion on 2011/2012.
- **Emirates SembCorp Water and Power Company (ESWPC)—F1:** It is located at Qadfaa in Fujairah. The company produces 861MW of power and 100 MIGD of desalinated water. The majority of the water is being transferred to Abu Dhabi through a pipeline owned and operated by TRANSCO.

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