

**Technical Support for Procurement and Project
Management and Private Sector Participation to the
Ministry of Water and Irrigation, Water Authority of
Jordan and the Jordan Valley Authority**

Support for Economic Growth and Institutional Reform:
General Business, Trade & Investment IQC

**Proposed Financial Management and Accounting System
For the Aqaba Water Company
Initial Design and Training Recommendations**

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ACRONYMS

AWC	Aqaba Water Company
BOT	Build-Operate-Transfer
FAS	Financial Accounting System
GOJ	Government of Jordan
GTZ	Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation Society)
IAS	International Accounting Standards
JVA	Jordan Valley Authority
JD	Jordanian Dinar
LEMA	Lyonnaise Des Eaux-Montgomery Watson Arabtech Jardaneh
LLC	Limited Liability Company
MWI	Ministry of Water and Irrigation
NGWA	Northern Governorates Water Authority
O&M	Operations and Maintenance
PSP	Private Sector Participation
TAPS	Technical Assistance for Private Sector Participation
UFW	Unaccounted-for-Water
US\$	United States Dollars
WAJ	Water Authority of Jordan
WAN	Wide Area Network

EXECUTIVE SUMMARY

WAJ is currently taking measures to perform more efficiently, decentralize management and operations to its branches in the governorates, introduce private sector participation (PSP) in management, financing and ownership of WAJ assets, and improve financial management and accounting. Implementation of the planned Financial Accounting System (FAS), which is accrual based, conforms to International Accounting Standards, and is computerized, has the potential to be an important tool in improving overall performance in WAJ. Changing the current government based system of accounting will help WAJ in its efforts to improve performance in WAJ-Aqaba and the other governorates.

While WAJ headquarters is in the midst of these related reform measures, WAJ-Aqaba is preparing to be transformed into the corporatized Aqaba Water Company (AWC). As an integral part of the transformation, AWC will need to develop a new financial management and accounting system as one of the key items on its agenda of corporatization and change. While such a system cannot be expected to solve all problems, it is a necessary tool to provide managers at AWC with the data and information that is needed to meet legal requirements, operate the company on a more efficient basis, and, eventually, provide potential outside investors with needed financial data.

This report considers the requirements for a new financial management and accounting system at WAJ Aqaba. As WAJ-Aqaba is transformed into AWC it will need to address the following tasks in the area of financial management and accounting systems in preparation for corporatization:

- Meet legal requirements for finance and accounting as an limited liability company (LLC).
- Decide on how best to use the integrated FAS Project.
- Select appropriate accounting policies, procedures, and internal controls.
- Train staff for new tasks and functions and redesign the finance and accounting department.
- Longer term, develop managerial accounting capabilities and be able to work on PSP efforts to attract private sector investor/operators.

AWC's most basic need is to meet the requirements for financial statements as set forth by the Companies Law. The FAS program offers opportunities for adaptation to meet WAJ Aqaba requirement for a new financial management and accounting system. However, it will at the same time need to ensure that this system meets its particular needs, and that it is available in time to meet its new legal requirement. Training of AWC staff in the new system will be of the essence. Training can also serve as a tool to develop AWC institutionally from within, as the staff will learn what the new requirements are and then be given the chance to participate in the design of the new finance and accounting system.

One of the principal benefits of a new financial management and accounting system could come in the future, when AWC will need to find new sources of water once the allocation of groundwater from Disi reaches its limit. At that time, AWC will have the ability to secure needed investment capital from outside investors who will develop and operate new desalination plants required to supply the ASEZ and the rest of the Aqaba governorate.

SECTION I

INTRODUCTION

Change is afoot at the Water Authority of Jordan (WAJ). WAJ is undertaking a series of related measures to perform more efficiently, decentralize management and operations to its branches in the governorates, introduce private sector participation (PSP) in management, financing and ownership of WAJ assets, and improve financial management and accounting.

These efforts on the part of WAJ headquarters will have consequences for WAJ-Aqaba in its management and operations. A branch of WAJ headquarters located in Amman, WAJ-Aqaba is preparing to transform itself during 2003 into a limited liability company, which will be known as the Aqaba Water Company (AWC).

As a part of that transformation, it will need, among other things, to assume responsibility for the management of its own finances and accounts. Management at WAJ-Aqaba has, in fact, identified the development of capabilities in financial management and accounting as one of their key requirements as they begin the transformation into AWC.

This report assesses and determines how AWC can best meet its new needs and requirements in the area financial management and accounting. The report first examines the current state of financial management and accounting systems in WAJ headquarters. At present, WAJ headquarters is responsible for virtually all financial management and accounting, a fact which will have several implications for WAJ Aqaba's path of transition during 2003. The report then examines the current financial operations and staffing in WAJ-Aqaba.

WAJ Aqaba/AWC's need for a new financial management and accounting system coincides with the plans of WAJ headquarters to implement the integrated FAS project (with support from USAID) throughout the WAJ governorates, including WAJ Aqaba. The goal of the FAS project is to introduce a computerized, accrual-based accounting system that conforms to International Accounting Standards (IAS) throughout the WAJ governorates. The FAS will be centralized in WAJ headquarters.

AWC stands to benefit from the efforts of the FAS project, especially if the new system and measures are tailored to address the specific needs of WAJ Aqaba/AWC. At the same time there are some issues noted in the report that warrant monitoring: the centralization of the accounting in WAJ headquarters; the commitment of WAJ staff to the project; the timely availability of the Wide Area Network (WAN); the interface between Oracle Applications and the current billing systems; the cost and complexity of the FAS; and the timing of the FAS project and WAJ Aqaba's corporatization.

The report then outlines the plans and next steps for WAJ-Aqaba in 2003 to begin to implement a new financial management and accounting system, and concludes with recommendations for training programs for the staff of WAJ-Aqaba.

SECTION II

THE CURRENT FINANCIAL MANAGEMENT AND ACCOUNTING SYSTEMS OF WAJ: ISSUES TO BE ADDRESSED

In recent years, a number of studies have been made of accounting and financial management systems and procedures employed in WAJ and its decentralized operating units, including WAJ-Aqaba. A review of these studies is provided in this section, offering insights into the features of the present systems and procedures that must be changed to meet the needs of the AWC.

A number of operational and performance related issues have developed over the years which have brought about an awareness that structural and procedural reforms are required. WAJ's interest in some of the elements of overall change and improvement follows from a square reckoning with a number of problems, which have persisted over the years, in the delivery of water and wastewater services in Jordan.¹ The issues that have been so identified are listed below and are reviewed in detail in this section.

- High levels of unaccounted-for-water (UFW), exceeding 50 percent for the past ten years.
- Over-investment owing to inadequate, technically oriented planning, which ignored the basic principles of economics and finance.
- WAJ has operated under civil service constraints.
- Internal inefficiencies owing to inadequate or sometimes non-existing management systems.
- Overstaffing: the international benchmark for a water company is 4-6 employees per 1000 connections; WAJ has 11 employees per 1,000 connections.
- Preparation and implementation of investment projects and management contracts is too lengthy, e.g. between 3-4 years, far too slow for solving the present shortcoming in providing water and wastewater services.

The salient features of WAJ's current financial management and accounting systems are summarized in the following paragraphs.

Centralization: At present, financial management and accounting are centralized in WAJ headquarters in Amman.² All financial transactions are booked in WAJ headquarters. Governorates send all vouchers to WAJ headquarters on a daily or weekly basis, or both. (LEMA and NGWA, which have been decentralized for purposes of accounting and book keeping, are exceptions, even though they remain branches of WAJ.) All transactions are entered twice: once to the cash set of books for the purposes of the government budget, and the

¹ These issues were identified by GTZ in a number of its working papers, as indicated in the "References" section of this report.

² This description of the current accounting system in this paragraph has been provided by FAS project documents.

second to the accrual set of books. WAJ holds manual records for booking financial transactions for both cash and accruals. Journal entries, payment vouchers and receipt vouchers are not broken down to the governorate level when booking these transactions at WAJ headquarters. WAJ financial statements issued once a year at December 31 of each year. These features have implications for many of the items on WAJ's agenda of improvements, and for WAJ Aqaba's current plans to corporatize:

As a consequence of the highly centralized financial and accounting system, the individual governorates, which are passive participants in the current process, do not have the experience or staff to manage their own finances or accounts. If and when decentralization occurs, the governorates will need to play a bigger role in these critical areas. WAJ-Aqaba management, for example, has indicated financial management and accounting, and inventory management, are key areas in which it lacks experience and expertise.

Overview of Financial Management and Accounting Issues in WAJ

- Virtually all financial management and accounting activities are centralized in WAJ headquarters in Amman
- WAJ uses a government accounting system, which is of limited help to managers (and potential outside investors) in measuring performance and efficiency, rather than the preferred commercial accrual-based accounting that conforms to International Accounting Standards (IAS).
- The accounting system is for the most part paper-based rather than computerized.
- The system for managing the accounting process and developing and implementing internal control structures needs to be improved.

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Governmental Accounting System: The current government-based financial and accounting system is largely incapable, by virtue of its design and purpose, of providing decision makers with critical information on efficiency and performance. This may explain why the current results delivered in the water sector are often unsatisfactory, in spite of the efforts and dedication of many WAJ managers such as those with whom that TAPS team members have met in WAJ-Aqaba and WAJ headquarters.

The current financial management and accounting system also fails to provide results by WAJ governorates, or cost centers within a governorate. These deficiencies further limit the use of the current system for an analysis of results and identification of opportunities to improve performance.

Even if a presentation of the financial statements of the individual governorates were available, the fact that the accounts do not conform to International Accounting Standards would make it difficult for potential investors to get a clear picture of the performance, or potential, of a WAJ governorate. This fact would make future investments or strategic partnerships between a governorate and an outside investor less likely to occur.

The nature of government accounting and procedures produces a system that is, paradoxically, exacting in requirements of a bureaucratic nature yet, often remiss in management of matters of economic significance. The governmental system for example, may specify in minute detail such matters as (i) the number of copies of documents required, (ii) in which file the various colored copies go and (iii) the nearly 30 clearances required for a contractor to be paid. Government systems however, may fail to make provision for such important matters as (i) a register of fixed assets, (ii) proper inventory costing and (iii) policy to determine which items are expensed and which capitalized, to name a few. The WAJ systems are clearly lacking in substantive procedures and internal control structures, particularly in the areas of cash management, purchases, warehouses, fixed assets, revenues and payroll as noted in the adjacent box.³

Other issues and problems, dealing specifically with the current accounting system at WAJ, also have been identified.⁴

- Poor controls over accounting transactions in the General Ledger.
- The reconciliation process is poor and takes a long time.
- The current chart of accounts structure does not accommodate WAJ operations and businesses.
- There are no procedures to maintain the current chart of accounts; any account can be added later by the General Ledger accountant.
- There is no accrual for expenses and unpaid invoices at period end, except for electricity invoices.
- Monthly or quarterly trial balances are not available.

WAJ Financing Management and Accounting Issues and Concerns

- The payroll system is centralised at WAJ headquarters in Amman, which prevents the allocation of salaries and wages to individual governorates or cost centers.
- There is no cost centre data available for water or wastewater operations in any of the governorates.
- There is no fixed asset register in any of the Governorates.
- No ageing program is available to analyze any of the outstanding accounts in the Governorates.
- The production of financial statements, such the income statement or balance sheet, was not available for any of the Governorates from WAJ (before the management contract with LEMA).

Another report notes the need for improving accounting policies and procedures, and internal accounting controls, in the areas of cash and banks, purchases, warehouses, fixed assets, revenues and payroll.⁵ Some of the main problems, which are at variance with sound internal

³ These issues are summarized from several GTZ working papers, some of which are three years or older; however, the essence of the conclusions still appears to be valid.

⁴ These issues are identified in "Business Process Mapping: General Ledger Cycle," Financial Accounting System Program for the Ministry of Water and Irrigation (MWI), The Water Authority of Jordan (WAJ).

⁵ "Report on Accounting Procedures and Internal Control Structure." Water Authority of Jordan—Amman Governorate Service Area, November 20, 2000. While some of these issues may be unique to Amman, many, indeed most, of them appear to be relevant for other governorates, including Aqaba. It should be noted too that in the particular case of the Amman governorate, conditions for report on accounting and cost structure appear to have improved under the LEMA management contract.

control structures or International Accounting Standards, or both, are shown in the following box.

At present, WAJ is attempting to address some of these features of the current system. Through the FAS Project (discussed in more detail below), it will move to a computerized accounting system that will utilize commercial, accrual-based accounting, which conforms to IAS. The accounting system, though centralized at WAJ headquarters, will be able to produce financial statements on a governorate by governorate basis, and by cost centers.

These features have implications for WAJ-Aqaba as it prepares to become the first WAJ governorate to transform from a branch of WAJ to a limited liability company.

As WAJ-Aqaba moves forward with its transformation, creating a self-standing, fully-functioning financial management and accounting division will be of prime importance.

WAJ Accounting System Features at Variance With International Accounting Standards

- Some payment vouchers are not attached with supporting documents.
- Some of the petty cash replenishment expense reports are not approved by the department manager.
- Some purchases do not include three quotations or did not complete a direct purchasing form.
- Purchases are posted and reflected in the accounts on a monthly, rather than a daily basis.
- A warehouse contained some stored materials that could be entered by anyone.
- There are no scheduled regular stock counts of the various stores to ensure proper controls over stock items.
- The inventory system does not produce reports over slow moving and obsolete items, or information concerning ratio analysis and turnovers. There is no linkage with the accounting department, where information is given manually through reports.
- There is no receiving department when goods are received for inspection.
- A proper accounting method should be used in inventory costing for calculation of unit prices at year-end to comply with the International Accounting Standards.
- There is no fixed assets register that contains the type of the asset, acquisition date and estimated useful life.
- There are no determined depreciation rates for the fixed assets.
- There was no depreciation expense computed for the period under review.
- There are no written procedures for acquisition and disposition of the fixed assets.
- There is no written policy to determine whether an item is considered an expense or a fixed asset.
- The old billing system is still being used, which is not able to carry out the basic reporting requirements such as: an aging report, showing the outstanding subscribers' balances and the old uncollected bills in order to follow up collections; customer analysis report; integration with the accounting system.
- Subscribers' addresses are not included in the customer information system; only the collector knows the addresses.
- Bills are distributed through the collectors who are also responsible for meter readings and collections from subscribers; in a better control structure, different people would be responsible for the different tasks.
- No reviewing process has been implemented concerning the entry of meter reading data into the system.
- There are no written policies and procedures for the Human Resources Department.
- There is a lack of segregation in the duties of the Financial Manager.

SECTION III

FINANCIAL MANAGEMENT AND ACCOUNTING OPERATIONS IN WAJ AQABA

In view of the current, highly centralized financial management and accounting system, it is not surprising that WAJ Aqaba's responsibilities and experience in this area are very limited. WAJ-Aqaba management has indicated that financial management is one of the key areas in which they lack experience, and need training and assistance, as they prepare for transformation into a limited liability company.

3.1 Financial Management and Accounting Functions in WAJ Aqaba

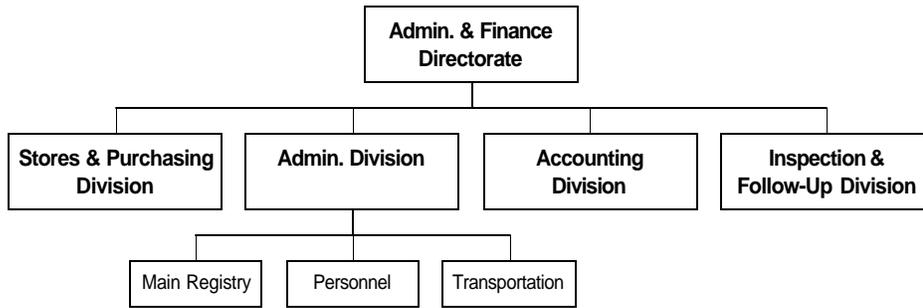
The limited responsibility of WAJ-Aqaba in areas of financial management and accounting reflects the highly centralized WAJ system. WAJ-Aqaba produces and delivers water to its customers and bills all but governmental customers for the water. WAJ-Aqaba employees collect payments, and the money collected is deposited daily into a WAJ bank account and transferred daily to WAJ headquarters in Amman. WAJ headquarters in Amman bills and collects for government customers. WAJ-Aqaba does not keep any accounts. WAJ-Aqaba does not have a bank account or authority to borrow. WAJ Aqaba's only financial management responsibilities are to add the day's receipts for deposit in the WAJ bank account at the local bank and to keep track of WAJ-Aqaba expenditures from petty cash.

WAJ Aqaba's operating and capital budgets are determined at WAJ headquarters. WAJ headquarters pays all expenditures except petty cash and sends funds to WAJ-Aqaba on the basis of the budget that it has prepared. There is no direct connection between the amount of money WAJ-Aqaba remits to WAJ headquarters and the funds it receives for its operations, maintenance and capital investments. According to WAJ-Aqaba managers, the budget that WAJ sets for it has little flexibility or ability to react to necessary investments that could provide a higher rate of return, such as investments to reduce unaccounted-for-water (UFW). They also comment that the highly centralized system, where permission from WAJ in Amman is required for many aspects of day-to-day operations, hampers their ability to operate efficiently. GTZ assisted WAJ headquarters to begin to develop an Aqaba fixed assets register and preliminary financial statements. WAJ-Aqaba has not yet received technical assistance or training in financial management.

3.2 Current Staffing in Finance and Administration in WAJ Aqaba

WAJ-Aqaba currently combines finance and administration in one department. The WAJ-Aqaba Finance and Administration Directorate is managed by an engineer, and has four divisions:

WAJ Aqaba - Administration & Finance Directorate



- (1) The Accounting Division staffed with an accountant, a clerk, and a cashier.
- (2) The Administration Division composed of a division head, a personnel affairs officer, a secretary, and two clerks. It also includes a transportation unit, headed by an engineer with 3 mechanics (capable of simple vehicle repairs and maintenance) and 32 drivers.
- (3) The “Stores & Purchasing” Division staffed by three stores men and a laborer, all of who are qualified.
- (4) The Inspection Division which is composed of two pipe fitters and two laborers responsible for follow up to assure that disconnected users don’t reconnect unofficially.

Although nine employees have some accounting background, the Administration Manager considers only one of his subordinates to be a qualified accountant.

The items kept in stock in the Stores and Purchasing Division are mostly pipes, fittings, and meters. The Administration Manager has stated that parts are shelved and carded, but no formal inventory control system exists. He is satisfied with the Garage, but like WAJ-Aqaba manager, wishes that WAJ-Aqaba would be authorized to manage vehicle repairs.

SECTION IV

PRINCIPAL FEATURES OF A FINANCIAL MANAGEMENT AND ACCOUNTING SYSTEM FOR AWC

This section considers the requirements for a new financial management and accounting system at WAJ Aqaba/AWC. WAJ Aqaba/AWC need to undertake improvements in five major areas of financial management and accounting systems in preparation for corporatization. The following sections discuss each of these needs in turn.

4.1 Meet Legal Requirements for Finance and Accounting as an LLC.

AWC's most immediate need will be to meet its legal obligations with respect to adoption of internationally accepted accounting standards and the generation financial statements and reports.

In this discussion, it will be helpful to remember that there are two basic types accounting information: financial

accounting or public information, and managerial accounting or private information.

Financial accounting includes information disseminated to parties that are not part of the enterprise as such, and includes stockholders, creditors, customers, suppliers, regulatory commissions, financial analysts, and trade associations. Such information relates to the financial position, liquidity, and profitability of an enterprise.

Managerial accounting, on the other hand, deals principally with relationships among cost, profit and volume; efficiency and productivity; planning and control; pricing decisions, and capital budgeting. Such information is not usually provided to outsiders. Financial accounting provides general financial statements of financial accounting, which are assumed to meet basic needs for information of most outside users. Managerial accounting, by contrast, provides a wide variety of specialized reports for division managers, department heads, project directors, and other officers within a company.

The most immediate and basic objective of WAJ Aqaba/AWC in the area of finance and accounting will be to meet its legal obligations with respect to legally prescribed financial statements. WAJ has selected the LLC as legal form for the incorporation of WAJ Aqaba. As a LLC, AWC will be required to meet certain legal requirements that WAJ Aqaba does not currently have to meet. By law it will be required to present its financial statements to the Ministry of Trade and Commerce within 90 days of the end of its fiscal year. However, as a LLC, AWC will be exempt from requirements to publish annual balance sheets, its profit and loss accounts (income statements) and the reports of its manager or its Management Committee.

Management and Accounting System Improvement Tasks to Support Corporatization

- Meet legal requirements for finance and accounting as a limited liability company.
- Decide on how best to use the integrated Financial Accounting System (FAS) project
- Develop appropriate accounting policies, procedures and internal controls
- Train staff for new tasks and functions
- Longer term, develop managerial accounting capabilities and begin to work on PSP options to attract private sector in.

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By Jordanian law however, the financial statements must conform to International Accounting Standards (IAS). Among other things, the use of IAS will require AWC to move to a full accrual basis of accounting, rather than the current modified cash accounting employed by WAJ headquarters. AWC will be required to appoint an external auditor to audit its financial statements, who will review the financial data, accounting records, business documents, and other pertinent documents of AWC organization and provide an opinion on the accuracy of the financial statements of AWC. The first fiscal year of an LLC may be up to 18 months in length, that is, from January 1, 2004 to June 30, 2005. This could be an advantageous option if the conversion to a new accounting system takes longer than anticipated. Further discussion of this contingency is provided below.

4.2 Determine How Best to Use the Integrated Financial Accounting System (FAS) Project In Developing the Systems Needed by AWC

As WAJ-Aqaba is transformed into AWC, the integrated FAS project, financed by USAID, offers the possibility that AWC may be able to avail itself of the services that FAS intends to provide to all the WAJ governorates. FAS will use commercial, accrual-based accounting that conforms to IAS.

According to information provided to TAPS, the main objectives of the FAS program are to:

- Update the MWI and WAJ financial accounting procedures and systems so that FAS can provide financial information that would allow management to evaluate the operations of MWI and WAJ.
- Provide training to WAJ and MWI employees to enable them to successfully update, operate and maintain the new system upon completion of the TA.
- Standardize internal reports that deliver relevant information to the end user (decentralized governorate units, e.g. WAJ Aqaba/AWC)

FAS will use Oracle Applications, an integrated e-business accounting software system, which will be installed at a central location in WAJ headquarters using one hardware platform that is available and accessed by all the WAJ governorates. Unix has been selected as the operating system for the main server. Thus, the system will be centralized in WAJ headquarters.

The FAS program will be conducted in phases. During each program phase, the FAS team will simultaneously be executing tasks from several processes. The work plan has been divided into six sequential phases: definition; operations analysis; solution design; solution build; transition; and production.

At present, FAS is completing its review of existing business processes and creating high-level mapping of the business process. The analysis will result in a high-level design for future business processes. FAS is scheduled for completion on May 30, 2005

The current intention of WAJ to adopt the Oracle Applications software for the twelve governorates has several potential advantages for WAJ-Aqaba and its successor, AWC. The TAPS prefeasibility study identified a number of FAS tasks in the area of financial management and accounting that are applicable in the development of systems needed by AWC.

Further, the TAPS team has identified the following tasks to be undertaken to assist AWC in the implementation of finance and accounting systems:

- Ensure that all Company officers understand the Company's financial policies and procedures.
- Assist line managers in preparing annual budgets.
- Input budget data, and edit changes to budget.
- Enter commitments for approved purchases, and remove commitments as payments are made.
- Prepare payroll and payroll deductions, issue payroll checks and deposits, and ensure that Social Security payments are made.
- Issue approved payments to suppliers.
- Undertake periodic stores audits.
- Receive cash and ledgers from Customer Service Department, and enter cash into general ledger.
- Prepare financial statements
- Prepare quarterly budget reports.
- Prepare monthly expenditure reports for cost center managers.
- Maintain and update fixed assets register and project accounts.

FAS Tasks That May Contribute to the Development of Financial Management and Accounting Systems for AWC

- Chart of accounts
- Systems analysis
- Hardware and software specifications
- Request for quotations
- System procedures and implications for business processes
- Financial policies
- Staffing and training needs
- System maintenance plan
- System capital and operating budget
- Payroll
- Accounts payable
- Inventory
- Cash management
- Fixed assets and project accounts
- Cost accounting
- Financial accounting
- Revenue analysis
- Budgeting and budget control
- Management information system.

The Oracle software in the FAS project is anticipated to address most if not all of the main needs and features of the desired financial management and accounting system envisioned for AWC, as identified above. Clearly, there is a benefit to WAJ Aqaba/AWC if it can avoid the cost and difficulties of developing these financial and accounting items independently. More generally, there are potential economies of scale in having one software package that can serve the 12 WAJ Governorates, as well as the Jordan Valley Authority.

If the Oracle systems function as anticipated, then the staffing needs in the Finance and Administration Division in AWC could be less than they would otherwise be without FAS. (It

should be noted that WAJ Aqaba/AWC would have to pay a fee, the level of which is to be determined, to use the FAS system.)

At the same time, some issues need to be carefully considered during the implementation of the FAS project. This is especially true for the case of WAJ Aqaba because it will need to have the beginnings of a functioning financial management and accounting system in place when it is officially transformed into the AWC.

Centralization. Under the proposed FAS Oracle based computerized system, WAJ headquarters will still retain centralized control over its branches and subsidiaries. For the other governorates, this may be less of an issue; in WAJ Aqaba, however, one of reasons for corporatization is to exercise and enjoy greater local autonomy. WAJ-Aqaba management has indicated that while it appreciates the potential benefits of the FAS system, they would expect to have primary ownership and control over the AWC accounts.

WAJ's Commitment to the Project. Another issue is the commitment of WAJ headquarters staff to the FAS project. The new system may pose a challenge to the established way of doing business. A high level of interest in commercial, accrual accounting is not yet established: WAJ still prepares its accounts employing the government cash-based accounting system, which is tied into its budget.

The Wide Area Network (WAN). The proposed new system assumes that a WAN will be in place. The WAN is being implemented independently of FAS. If there are delays in the WAN, there will be delays in FAS. At the same time, AWC will have legal obligations as far as preparing financial statements, and thus cannot afford delays.

Interface Between Oracle Applications and Billing Systems. Two billing systems are in place in the WAJ governorates, an older COBOL billing system, and a new X7 billing system, which uses an Oracle database. WAJ-Aqaba currently uses the COBOL system. Management at WAJ-Aqaba indicates they will move to the X7 billing system, which has more features, and generates more information and reports than the COBOL system. The Oracle system that FAS will deliver would need to interface with both the old system and the new system to achieve a meaningful degree of automation in accounting. However, at present, it is not certain how well the Oracle system will interface with either the COBOL or the X7 billing system.

Cost and complexity. Upkeep and maintenance of the Oracle system could be expensive. If budgets are insufficient, then the reliability and availability of the system could come under pressure. WAJ-Aqaba is, by virtue of its revenues, a small company. Its revenues are just over 8 million JD per year, or about \$US 12 million a year. Most companies with this level of revenues would use a much less expensive, and less complex, accounting system.

Timing. WAJ-Aqaba plans to be corporatized on January 1, 2004. However, the current FAS timetable calls for the accounting system in WAJ-Aqaba to be up and running in July 2004. FAS has indicated an interest in coordinating with TAPS so that the timing can be adjusted to meet WAJ Aqaba's deadlines.

In spite of these concerns, it is important to consider that the FAS project and TAPS have different, yet complementary, objectives. The objective of FAS is to implement one very important facet of the overall objective of reinvigorating WAJ and helping it to restructure. WAJ-Aqaba will be spared the full burden and cost of developing a financial management and accounting system solely for itself if the FAS project can be implemented as anticipated.

TAPS is focused at present with one of the critical first steps in WAJ's reform program, namely, the corporatization of WAJ-Aqaba. TAPS can provide valuable insights to the FAS project on how the Oracle software fits in with the overall functions needed for the corporatization of the AWC. For example, what are the institutional implications for the design of the Finance and Administration Division? Which types of information will management find most useful? Which areas have issues as far as accounting procedures and controls are concerned?

4.3 Develop Appropriate Accounting Policies, Procedures and Internal Controls

A computerized accounting system such as the one envisioned by FAS will only be good and useful if the data that is being entered into the system is accurate and meaningful. If key accounting policies and procedures are not in place, it may be difficult to generate relevant financial information and conform to International Accounting Standards. In such cases, the information generated by the software will be of little help to WAJ managers, and the efforts to produce a useful financial management and accounting system will be frustrated.

For example, if WAJ Aqaba is unable to develop a fixed asset register, then the balance sheet will have little meaning, and the calculation of a depreciation expense, a key item on an income statement, will not be possible, rendering such a statement less meaningful. As a further example, clear guidelines must be in place providing details concerning the items that should be expensed, and those that should be capitalized. Proper inventory costing is another key item that does not appear to be consistently treated at present. The adoption of International Accounting Standards will be of help. The staff that is dealing with these issues day to day must understand how the system works, and specific policies and procedures must be in place to guide them. Proper internal controls are also essential if the numbers that enter the accounting system are to have analytical relevance, and if the finances of the AWC are to remain sound.

The development of policies, procedures and controls is an important step in the development of the WAJ's decentralized units in the governorates. Such a development can potentially benefit from the economies of scale that would come from a general WAJ approach and strategy. Recognizing that implementation of such policies, procedures and controls needs to take place on

a governorate by governorate basis, it will be important that the implementation of these systems in WAJ Aqaba/AWC is given high priority.

As WAJ-Aqaba will be the first governorate to acquire a separate legal standing, it will be of the essence that the implementation of the new financial management and accounting system proceeds smoothly. TAPS recommends that the implementation of such a system be closely tied to the training program, as outlined in the following section.

4.4 Begin Training of WAJ-Aqaba Staff for New Financial Management and Accounting System.

TAPS proposes to use training as an integral part of planning for the transformation of the current WAJ-Aqaba finance and accounting division which in fact performs little or no finance or accounting activities under the current system. This activity will be closely implemented with the institutional reform and human resource program, recruitment of key positions might be considered early on in the implementation program to maximize the benefits of training programs.”

TAPS recommends that training for a new financial management and accounting system be closely linked with its implementation, beginning with a detailed explanation of the program of changes that are underway in WAJ. To start the process, TAPS proposes a two day overview of the new functions and responsibilities that the Finance and Administration Division in the corporatized AWC will have to meet.

The purpose of such an initial training session is to make AWC managers aware of the changes that will need to take place in financial management and accounting. At this stage in the transformation of WAJ Aqaba, it is not expected that the participants would necessarily gain a deep understanding of the above points. Rather, the intention is to introduce the staff of WAJ Aqaba/AWC to the responsibilities that they will need to assume and manage.

The participants would be given case studies and case exercises. The final session would involve the development of an action plan by the participants to agree what the next steps are, what

Topic Outline, Two-Day Training Seminar on Finance and Accounting Systems in the AWC

- Overview of Current System
- Changes at WAJ, including PSP
- International Accounting Standards
- Jordanian Generally Accepted Accounting Principles
- Changes in Accounting Systems
- Financial Accounting
- Management Accounting
- Cash and Accrual Accounting
- Management Information Systems
- The FAS Project
- Budget Responsibilities
- Budget Preparation and Control
- Management Information Reports
- Internal and External Auditing
- Financial Statements
- Financial Analysis
- How the Private Sector makes Investment Decisions
- Case Studies and Exercises
- Action Plan to Implement New System in AWC

actions will be undertaken and to appoint personnel to assume certain roles. Such an approach will ensure that the training is relevant, practical, and focused on implementing the new system.

After a month or two, a more intensive training program would be initiated for the people who will form the core of the Finance and Administration Division with AWC. The exact nature of the training would be guided by the first general session and the action plan developed. It would then go into more detailed presentations on the main points presented in the initial training session.

One of the outputs of such a training program would be a design of the new financial management and accounting system for AWC. Such an approach will involve the participation of the relevant people who will have to make the system work day to day. Rather than being imposed from outside, it will reflect AWC's understanding of the new system, what its responsibilities are, and enable AWC to propose, with assistance from outside experts who will present the training, a suitable financial and accounting system that meets its needs.

If the FAS system can be implemented as envisioned, then the initial demands on AWC for staffing of the new financial management and accounting system should not be particularly onerous. It will be important for AWC to retain the flexibility to modify or redesign its finance and accounting department as it takes on new tasks in future years.

In the initial phase in the transformation of WAJ-Aqaba to AWC, the changes in the current finance and accounting division do not need to be particularly great, especially if the FAS project comes on stream on time and provides the computerized accounting system that is foreseen. Assuming that the FAS system is available to AWC and operational on January 1, 2004, AWC will need to constantly review and assess the system. One must expect that there will be problems and new issues that will need attention.

4.5 Longer Term, Develop Managerial Accounting Capabilities and Begin to Work on PSP Options to Attract The Private Sector.

After a period of perhaps two years, AWC should have developed and refined its initial financial management and accounting system to meet its basic reporting responsibilities. At this point, it should begin or refine, its managerial accounting functions. Managerial accounting, as noted previously, goes beyond financial accounting and provide managers at companies with information on the relationships among cost, profit and volume; efficiency and productivity; planning and control; pricing decisions, and capital budgeting. It provides a wide variety of specialized reports for division managers, department heads, project directors, and other officers within a company.

As AWC develops and refines its managerial accounting abilities, it will also need to deal with outside financiers, such as providers of debt and equity. Developing such abilities will require the hiring of additional staff with skills and expertise in these areas. The ultimate objective of

the development of these additional capabilities will be to secure financing (as discussed in the TAPs prefeasibility study for the corporatization of WAJ Aqaba) for a BOT (build-operate-transfer) or concession project. The first financing of this type is expected to be needed in approximately 2010 for desalination plants.

SECTION V

CONCLUSIONS

In the midst of several related measures undertaken by WAJ headquarters to improve the services it provides in water and wastewater delivery, WAJ-Aqaba will need to develop a new financial management and accounting system as one of the key items on its agenda of corporatization and transformation into AWC.

Changing the current government-based system of accounting will help WAJ in its efforts to improve performance in WAJ-Aqaba and the other governorates. A new system that is accrual based, conforms to International Accounting Standards, is computerized, and benefits from clear and consistent policies, procedures and controls, will be an important tool in improving performance in WAJ.

AWC's most basic need is to meet the requirements for financial statements as set forth by the Companies Law. The FAS program offers opportunities for WAJ-Aqaba to develop its new financial management and accounting system relatively easily. However, it will at the same time need to ensure that this system meets its particular needs, and that it is available in time to meet its new legal requirement. Training of AWC staff and new recruited personnel in the new system will be of the essence. It can also serve as a tool to develop AWC as an institution, as the staff will learn what the new requirements are and then, with the assistance of TAPS team members, be given the chance to design the new finance and accounting system.

One of the principal benefits of a new financial management and accounting system will come in the future, when AWC will need to find new sources of water once the allocation from the Disi reaches its limit. At that time, AWC should rely on its Finance and Administration Division to secure needed investment capital from outside investors for the new desalination plants that will be required to supply the Aqaba Special Economic Zone and the rest of the Aqaba governorate.

APPENDIX A

PERSONS CONTACTED

Ra'ed Daoud, Managing Director, ECO Consult

Elias M. Dardas, Finance Director, LEMA

Tayeseer M. Faris, Financial Manager, Water Authority of Jordan, Tel. 5680100, ext. 515,
fax: 5687635

Gary Fullerton, Financial Advisor, International Bechtel

Sinan S. Ghosheh, CPA, Senior Partner, Chosheh & Co., Certified Public Accountants.

Hassan Mawajdeh, Eco Consult

Andrew T. O'Neill, Financial Advisor, Nextant

Mohammad Qazzaz, Finance Manager, Ministry of Water and Irrigation, Programme
Management Unit

Na'im Saleh, Head, Subscribers' Directorate, WAJ Aqaba

Raed Abu Soud, Project Management Unit (PMU) Director, Ministry of Water and
Irrigation, Water Authority of Jordan,

Hatem Tawfik, ECO Consult

Emad Zureikat, Manager, WAJ-Aqaba

APPENDIX B

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